Kyiv National University of Trade and Economics

Tourism and Recreation Department
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Task
for a final qualifying paper

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1. Topic of a final qualifying paper: « Mobile sales technologies of tour operator Coral Travel based on LBS-systems»

Approved by the Rector's order from 11/11/2016 № 3500

2. Term of submitting by a student his/her terminated paper: 12/23/2017

3. Initial data of the final qualifying paper

Purpose of the paper is a formation of the mobile sales travel of operator's network.

The subject is the mobile sales in tourism (example of tourism travel operator " Coral Travel ")

The object theoretical, methodological and practical basis of formation of the mobile sales in tourism (on the example tourism agencies of the "Coral Travel").

4. Illustrative material: conceptual framework of brand image for the tourism industry; conventional models of formation of the mobile sale in the field of tourism; the travel Agency LLC "Coral travel"; the organizational structure of travel agency LLC "Coral travel"; the Dynamics of the main economic indicators of travel agencies of the LLC "Coral travel"; the Main indicators of financial

activity of the travel agency LLC "Coral travel"; the Systematization of the evaluation of mobile sale of travel agency LLC "Coral travel".

5. Consultants of the research and titles of subsections which were consulted:

Section	Consultant (last name and initials)	Date and signature	
		The task given	The task received
Part 1	Mikhailichenko G. I.	10/24/2017	10/24/2017
Part 2	Mikhailichenko G. I.	10/24/2017	10/24/2017
Part 3	Mikhailichenko G. I.	10/24/2017	10/24/2017

6. Contents of a final qualifying paper (list of all the sections and subsections)

INTRODUCTION

PART 1. Theoretical-methodological information of mobile sales.

1.1. The essence, role, characteristic of mobile sales.

1.2. Main features of mobile sales in tourism.

1.3. Methods and stages of development of mobile sales.

PART 2. Analysis of the effectiveness of mobile sales in LLC Coral travel.

2.1. Management of efficiency.

2.2. Researching mobile sales policy international tour operator LLC Coral travel .

7. Time schedule of the paper

o.	Stages of the final qualifying paper	Terms of the final qualifying Paper	
		de jure	de facto
.	Choosing and approval of the final qualifying paper topic	__/__/____-__/__/____	
.	Preparation and approval of task for the final qualifying paper	__/__/____-__/__/____	
.	Writing and pre defense of the 1st part of the final qualifying paper	__/__/____-__/__/____	
.	Writing and pre defense of the 2nd part of the final qualifying paper	__/__/____-__/__/____	
.	Writing and preparation of scientific article	till __/__/____	
.	Writing and pre defense of the 3rd part of the final qualifying paper	__/__/____-__/__/____	
.	Preparation of the final qualifying paper (title, content, introduction, references, appendences), presentation of master diploma paper on the department and pre defense in the committee	__/__/____-__/__/____	
.	Presentation of the final qualifying paper on the department and on the deanery, receiving of referrals for external peer review	__/__/____-__/__/____	
.	Additional processing, printing, preparation of material to final qualifying paper defense	__/__/____-__/__/____	
0.	Defensing of the final qualifying paper in the Examination Board	According to the schedule	

8. Date of receiving the task: 10/24/2017

9. Scientific adviser of the research _____ Mikhailichenko G. I.

10. Head of educational and professional program _____

11. The task received by the student _____ Kohanchuk Y. A.

Mobile marketing is a relatively new branch of marketing, referring to the twoway marketing communication between company and customers that takes place via mobile devices. The effectiveness of marketing campaigns has been greatly increased when mobile devices have been used in conjunction with traditional media and in that case potential customers show more intention to purchase. Implementation of mobile marketing strategy in marketing management is a complex and demanding process. To make the implementation possible, companies should first examine the socio-cultural and technological factors which dominate on the market. Mobile marketing has a great impact on all elements of the marketing mix and allows companies to develop products with the shape and characteristics which are desirable with existing and potential clients. Besides, mobile marketing offers complete control over pricing and distribution and provides great promotional activities through mobile devices such as advertising, sales promotion and direct marketing. It has been a significant role and importance of mobile marketing in the system of marketing management where stands out the importance of multiplatform advertising (tv+iPhone+iPad).

CONTENTS

INTRODUCTION

Actuality of the article. The high rates of development of telecommunication technologies and mass distribution of the Internet in mobile phones and the tablets. In 2016, it accounted for 51.3% of the world Internet traffic, desktop PCs and laptops -48.7%). Mobile devices and services have now become the heads of entertainment and business peoples lives, as well as successful communications.

According to eMarketer estimates, about a quarter of the world population uses smartphones today, and by 2018 it is predicted that they will be more than a third of global consumers or more than 2.56 billion people.

The results of GfK Ukraine online shopping survey, as of April 2018, showed that 50% of Internet users across the country aged 16 and over who had an online shopping experience were looking for product information from smartphones and in 43 % made an order using the smartphone. It is important to note that the respondent audience as a whole is quite active: on average, they use 3-4 gadgets and 85% already use smartphones.

According to the statistical company StatCounter, about 13% of Internet traffic in Ukraine falls on mobile devices (smart phones generate 10% of traffic, tablets - 3%). At the same time, about 91-124 minutes a day, on average, users spend 12-64 years in large cities (from 700 thousand people) on the mobile Internet (in the age group 12-24 years, this figure is 124 minutes, in the group of 35 -64 years - 91 minutes).

Purpose of research is a formation of the mobile marketing of travel operators network.

The object of the research theoretical, methodological and practical basis of formation of the mobile marketing in tourism (on the example tourism agencies of the “Coral Travel”).

The subject of the research the mobile marketing in tourism (example of tourism tavel operator "Coral Travel")

Elements of scientific novelty in the work were: statement and resolution

Problems of substantiation of measures and methods of mobile marketing of the Tour operator;

Implementation of specific marketing decisions on the introduction of new technologies into LLC «Coral Travel»

The practical value of the results. Provided specific

recommendations and methods for implementation and implementation of the new one

mobile marketing programs based on innovative technologies

development of mobile applications, which makes it possible to use the results of the diploma

master's work at the further formation of the tour operator's strategy

on the national market of tour operators.

Publications publication of the study result is carried out by way of

publication of the scientific article "MOBILE SALE TECHNOLOGIE OF TOUR OPERATOR" in

collection of scientific articles of the Federal Reserve Scientific-Technical University KNTEU "Hotel and restaurant business and

tourism".

Paper structure. Final qualifying paper consists of the Introduction, 3 parts, appendixes and references; each part consists of three sections and conclusions. The final qualifying paper also consists of the 11 figures, 2 tables.

PART 1
THEORETICAL-METHODOLOGICAL INFORMATION OF MOBILE SALES.

1.1. The essence, role, characteristic of mobile sales

With an excellent product, attractive price, successfully implemented promotion and distribution, it is very important to know how to approach the product or service to the customer because of the new market trends. In the recent past companies were using massive marketing – communication with a large number of potential customers at once via traditional media as TV, radio, newspapers, journals etc. By development of information technologies and the fact that massive market has become fragmented, marketing experts had to change their access to the existing and potential clients. Development of information technology has enabled direct communication with the clients, while companies can find out useful information that can be used for creation different kind of products for each customer. Also, new kind of directed/target marketing has been continuously developing. New information technologies created new media – mobile devices, by which can be applied mobile marketing. In his paper Joshi identifies mobile devices as an important innovation whose impact on the company probably will not stop soon. To emphasize their importance and crucial role in business, Joshi calls mobile devices "strategic innovation". Because mobile devices are always close to their owners they create emotional impact. The purpose of this paper is to point out the importance of the implementation of mobile marketing in the system of marketing management. The objectives of this paper are: highlight the role and importance of mobile marketing in the system of marketing management and the importance of multiplatform advertising.

Mobile marketing and its particularities.

Dushinski in his paper defines mobile marketing as a revolutionary tool for connecting companies with each of their clients via their mobile devices in the right time, on a right place and with appropriate direct message. Becker i Arnold

emphasize definition of mobile marketing which have been given from Mobile Marketing Association1, which says that mobile marketing is a set of procedures that enables communication with companies target audience on interactive and relevant way via mobile devices. Also, mobile marketing is a new marketing channel which has been created during the evolution of e-commerce. Although it is possible to reach out target groups via mobile devices, Tanakinjal et al. state that it's important to make an effort and explore the possibilities to make it work. According to Andrews et al. mobile marketing is any form of marketing communication that has been using mobile devices during the creation of potential opportunities and benefits for customers, what includes location based mobile services and services for the delivery of mobile content. Marketing experts agree with the fact that activities that have been going on with the mobile devices, in the last decade, had a huge impact on a development of mobile marketing and on intent for purchase of potential customers in the future (Chinomona i Sandada). As many people equate the term of marketing with promotion, it also happens with the term of mobile marketing and mobile promotion, what is surely wrong. Tanakinjal et al. explain the difference between these two terms. Mobile marketing is a driver and a foundation for the exchange of content and direct response, while mobile advertising is form of a message which has been sent via mobile device. Mobile marketing is a form of communication with existing and potential clients. Basis of this communication has been development of telecommunication, information and wireless technologies. Mobile marketing does not lose the sense of marketing but reflects the creativity of marketing professionals and their strategy while result should be qualitative and successful marketing communication between the company and customers. Hence, mobile promotion is a part of mobile marketing and is one of its most important activities. Mobile devices are owned by one person what enables communication with a specific person and message that has been sent to them is immediately available Hazlett. Accordingly, interaction with the clients can be totally different for each client, what is not the case in other kinds of marketing (Dushinski). Because of the opportunities provided by mobile

marketing, companies can easily include in the exchange of information with existing and potential customers, with the aim of improving products (Persuad i Azhar). Companies are increasingly opting for mobile marketing because of the trend and its optimistic projections (Smith).

Devices of mobile marketing and their connection to the mobile internet

After 2000. main media had become smart phones. Ten year after, from 2010., featured product is tablet device. Smartphone and tablet devices share many common characteristics. Mobile devices and the Internet are the basis for operation of mobile marketing. To make mobile marketing campaigns successful, marketing experts should have to know how to use built-in capabilities of mobile devices.

It is important to clarify what kind of devices includes the term „mobile devices“, because it is often thought to be exclusively mobile phones. Term of mobile devices includes different kind of mobile phones, smartphone devices, personal data assistant devices, tablet PC and even play station portable because user can connect through it by Wi-Fi technology and surf the Internet, either at home or outside (Dushinski). Mobile phones are not just phones whose main purpose is not just making calls. They have embedded some special functions like reading the newspapers, display of geographic maps, camera, radio, e-store, TV function etc. (Arnold and Becker). Although there are different divisions of mobile devices by category, there has been generally accepted the division in three categories: feature phone, smartphone and connected devices (Pasqua and Elkin). Feature phones are older mobile devices which are less sophisticated. Lately, in this kind of mobile phones have been installed some advanced options which are still far from those which have smart phones (Rashedul, Pasqua and Elkin). According to Becker and Arnold, smartphone is a mobile device which integrates possibilities of mobile cellphone with the main possibilities of personal computer what includes Internet, applications, e-mail, entertainment and media services. Also, Barbour points out that smartphones are becoming thinner, faster, with much more functions that make them similar like laptops. Analysts of Gartner2 figure out that total sale of smartphones in 2013. ammounted to a record 81 billion units, an

increase of 3.4% compared to the previous year 2012. Connected devices are all mobile devices that do not have the ability to call, but have all other features of mobile devices. These characteristics correspond to tablet devices, e-readers and portable entertainment devices. These devices share many things with smartphones, but their primary purpose is not phoning but browsing the internet, entertainment and reading e-books.

Access to mobile Internet

What is particularly significant with regard to the functioning of mobile devices is to achieve connectivity with other mobile devices in order to achieve basic communication, which is the basis for the realization of marketing communications. This applies in particular to the network connection and data transfer speed in the network. By development of wireless technology, mobile phones became part of our everyday life on private and business plan (Liao). Mobile devices can connect the Internet via network of mobile operator or Wi-Fi network – user can choose, depends on a situation how to become connected to the Internet. Feature phones and smartphones primarily connect the Internet via network of mobile operator which have been using while transfer rate and characteristics of connection depends on the standard used in the network and which device supports. Connected devices connect the Internet primarily via Wifi network, but there are also exceptions – like advanced tablets which can have functions of mobile phones and can use networks of mobile operators (Pasqua and Elkin).

Statistical indicators of using mobile Internet in Ukraine

71% of Ukrainian subscribers regularly use the mobile devices to access the Internet.

The number of mobile devices in Ukraine in 2016 exceeded the number of users of personal computers. Such data are given in the study of the mobile marketing agency LEAD9. Thus, according to the research, more than 51% of Ukrainian users aged 18-55 use smartphones, and 71% of subscribers - regularly access the Internet using mobile devices and install mobile applications on them. In

general, every five years during the last five years, smartphone sales in the country grow by 30% per year.

The combined use of traditional media and mobile devices

On a daily basis, consumers can spend more time sitting in front of TV, but smartphones still more occupy their attention. In fact, most of them are using smartphone and tablet devices while they are looking the TV (Pasqua and Elkin, 2013). Companies Nielsen4 and AdColony5 conducted the research of the impact of traditional media and mobile devices on consumers during the video advertising. So called "Cross-Platform Video Ad Effectiveness Study" showed that viewing to the more screens – watching TV and using mobile devices, may cause the intention of buying brand which has been promoted in 72% of the cases more than advertising just on TV. The sample on which the survey was conducted consisted of 400 respondents. Adaptation to mobile devices and their frequent use resulted in the fact that consumers are watching multiple screens at once. Also, consumers mostly do multiple tasks at once while they are watching TV – 80% of them are at the same time surfing the Internet via mobile devices. Generally, multiplatform advertising surpasses other forms of advertising and it leaves much greater effect on any measured area of brand promotion.

Mobile marketing in a system of marketing management

According to Kotler two main factors have been changing marketing communications: 1) Moving away from mass marketing and developing focused marketing programs which have been designed to build stronger relationships with consumers on a specific market. 2) Segmented marketing has been increasingly used because of the development in information technology. Further, information technology helps marketers to understand better the needs of consumers. New technologies offer new possibilities for communication with the help of which one can get to the smaller segments of consumers with more personalized messages (Kotler). Shankar state that existing and potential clients by sending the messages via mobile devices can greatly participate in forming the product. Thanks to location based services, Smutkupt point out how marketing experts can easily

determine the supply of products and services in the specific area with the aim of increasing sales. Also, to the each customer may be offered unique price without others knowing that. That allows sellers price discrimination of the first degree, which refers to the fact that to every customer can be offered a customized price (Smutkupt). Mobile technologies help companies to increase the efficiency of product distribution. Also, customer can monitor the progress of the delivery of his product via mobile device (Smutkupt). Tools of mobile advertising are: mobile web pages, e-mail, mobile applications, QR codes, SMS and MMS, location based marketing and near field communication (Podmanicky and Turkalj ; Becker and Arnold , Stuart. Their proper application requires some effort, investment and proper strategy. To form a proper strategy, marketing experts should be provided with all information about the market – data on the prevalence of mobile devices on some certain market, the type of mobile devices that are used and the possibilities offered by mobile operators. There are two most common strategies of mobile marketing that are called "push" and "pull". Push strategy is an active way of advertising which aims to reach out to a large number of customers at once and is successful if clients want to receive new information. On the other hand, users can receive new information on their request. Then, information content has primarily value for the user, and that kind of strategy is called pull strategy (Alibabić)

Mobile marketing is a relatively new concept in the marketing discipline. Although sometimes referred to as one of the marketing channels, mobile marketing is much more of that. It is a separate unit of marketing which tries by planning and development of effective marketing campaigns reach the potential clients on interesting and interactive approach via mobile devices and Internet connection.

The emergence of mobile marketing does not substantially change the system of marketing management but gives marketing experts new efficient tool by which they can easily reach a huge number of new clients. Thus, marketing experts have to adjust strategies to new technologies and media while marketing essence

remains unchanged. During the implementation of each mobile marketing campaign, mobile marketing tools should be used together or in a combination what means that it is necessary to make a good strategy. The maximum efficiency of mobile marketing is evident when it has been used in a combination with traditional media where stands out the importance of multi-platform advertising. The paper did not present the negative aspects of mobile marketing what is the limit of a paper.

As the latest studies and statistics reveal ,the last 12 months are another increase in the importance of mobile devices and further smartfonisation of society. The end of the year is a time for summaries, so we collected the most interesting data presenting scale of development of mobile and mobile marketing technologies.

There are already over 3.5 billion mobile internet users in the world, which represents almost half of the total population. The global share of mobile devices in online activity is 52.64%. It is estimated that every day we spend almost 3.5 hours using the Internet through mobile devices. In 2018 this time will be further extended. We cannot imagine life without a smartphone. 89% of people use a smartphone while watching TV. For 88% of tourists smartphone is the most important thing, without it they cannot imagine their journey. With only one click in application we order a taxi, or more often we make payments through device. Social media, games, video are the most popular contents on mobile showing both Selectivv internal data and research, such as ComScore. It is also important to remember about two global players that have dominated the ranking of applications. Google and Facebook have 9 of the 10 most popular applications in the world (data from Statista).

The importance of mobile applications

According to App Annie, more than 3.5 million applications are currently available on Google Play, while Apple App Store has over 2 million. According to Statista data, both stores last year recorded 197 billion downloads, and by 2021 this number will increase to over 350 billion. Analyzing the statistics, one can conclude that the generally known 80/20 rule also works in the case of mobile. 80% of the

time we spend in this channel using 20% of mobile applications installed on the phone. The average user has 5 favorite applications. It is worth noting that the first most frequently downloaded application is active for 45% of the time, and the fifth one is only for 4%.

Social media and portable devices

It turns out that more than 80% of time we spend in social media on mobile devices. 54% of FB users use the application to view content on the site. 87% of the revenue from advertising displayed on the site is generated by mobile. The difference in the use of technology can be seen between users of Twitter and LinkedIn. Even 82% of the first use the service through a mobile application, while others choose a desktop – only 41% actively use the application.

Searches on smartphones and tablets

Statistics indicate the growing advantage of mobile technologies in case of Google search. Their number on mobile devices has already exceeded half of all queries. A lot of them involve local searches. 88% of people who are looking for information about services or products in the nearest area use search results or visit a given location within 24 hours.

Mobile is important for trade

The most active group of smartphone and tablet users are people cover an age range of 18-39 years. In this group, up to 69% of users start their shopping on a mobile device. 44% of them use a tablet to find the right offer. Already 70% of users declare that before making a purchase in a traditional way, they first look for information about the product they are interested in on their mobile device. Studies also imply that while staying in a stationary store 90% of consumers use a smartphone. During this time 54% of them compare prices, 48% look for additional product information, and 42% check opinions on the viewed product. Knowing that mobile devices are an increasingly important in the purchase process, it is worth asking the question, what actions are able to encourage users to visit a particular store or take advantage of a given offer? It turns out that for 57% an attractive incentive would be the availability of mobile coupons, and 76%

would buy in a given store, if a loyalty program was available in the mobile channel. Only in 2016, mobile devices, excluding tablets, brokered sales of 60 billion dollars. This is only a fraction of 1.05 billion dollars from traditional sales. It is estimated that this amount will increase up to 10 billion dollars in 2021.

Mobile marketing in 2018

The latest forecasts assume that 60% of online advertising in the coming year will be dedicated to the mobile sector. The above statistics show that advertising campaigns for mobile devices are one of the most important challenges in the coming year. Knowing that the perception of advertising in traditional media and even on the desktop differs from that one on mobile devices, in 2018 we should definitely and boldly bet on designing strategies specifically for smartphones and tablets.

Smartphones have completely changed our reality. They allow the modern user, who is always busy and constantly moving, continuous communication with the world. More and more companies try to use this, identify the need to reach such a user and, therefore, base their activities on mobile applications.

A few years ago, listening to music from the mp4 player, ordering a taxi by phone or buying tickets at the kiosk was something common. Today, we slowly forget about these activities. The gradual shift of services to mobile applications has changed our habits completely, and our lives have become easier and more convenient. All you need to do is just to attach the payment into application, and a lot of features will be available at your fingertips. The mobile revolution does not slow down, it raises new trends and the demand for completely new services in such industries as: communication, entertainment, business or marketing.

Mobile and public transport

Smartphones have changed the way we use transport services and we move around the city**.** There are several applications on the market that allow us to buy a ticket for public transport or train**.** We do not have to waste our time looking for a kiosk or standing in a line at the ticket office. The skycash application, in addition to buying a ticket for non-motorized users, allows drivers to pay a parking fee.

Applications make it easier to take advantage of the city bike offer for residents of several of the largest cities in Poland. They enables to quickly check the nearest station or find bikes available for rent. In recent times, a lot of companies offeri carsharing appeared. The method for effective and cheaper use of cars and scooters for minutes is a new quality of public transport. Ordering a taxi and paying for the course in the application, such as mytaxi or Uber, is a convenience to which more and more people and companies are convinced. According to GFK research, ⅔ residents of the capital use the application to order a taxi. Since September last year, Warsaw citizens can use the taxi service, the so-called ridesharing. Ecology, availability and mobility are features that perfectly fit into today's trends.

Mobile is the main center of entertainment and education

Smartphones have also influenced the way we entertain. The apps allow watching the movie or the last episode of our favorite series on the way to work or while returning home and also to use unlimited resources of digital music, movies and series on demand anywhere, anytime. The potential of the application is also appreciated by educational institutions. An example is the SWPS University, which decided to make its popular-science lectures available on Spotify.

Payments and financial services on mobile

The latest data shows that more and more people are convinced to mobile payments and manage their finances on a smartphone. The percentage of Poles using mobile banking increased from 16 to 34%. 8% of users already use contactless payments via phone. Another 8% actively use BLIK payments. The potential of the application is perceived by the largest financial institutions that compete in creating the most user-friendly application. One of the largest insurance companies in Poland has made it possible to report car damage using the application. You can send photos and documents necessary for the loss settlement through the app. Remote inspections save everyone time and nerves.

Mobile marketing based on data

With the development of mobile services, the marketing services market based on data from smartphones and tablets is also developing. Advertising

campaigns on smartphones have evolved from ads targeted to a specific location into reaching users with a specific behavioral profile. Data from mobile devices allowed to learn about their behavior, way of moving and interests. The profiled user data on DMP platforms such as Selectivv DMP helped companies to reach people who might be interested in their products at a given moment in their lives. The use of data has allowed also to reach customers who use a competitor's app in order to encourage them to use the services promoted by the company.

Innovative tools for marketers emerging on the market allowed for the analysis of data and their use in order to plan campaigns in the mobile channel and to track their results. The combination of innovative technology and data from mobile gives mobile marketing new opportunities to attract not only regular customers but also new users, while minimizing the spend funds.

The main characteristics of most property types refer to the fact that the owner is free to make use of it as much as he/she wants to (in the limits of law, of course) and has the right to exclude others from making use of it.

1.2. Main features of mobile sales in tourism

Technology in today's world has constantly been developing and even each different day a replacement technology is introduced to individuals. They are largely new tools or applications that ease people's life and are largely mobile, easy to use and multi-functional. Augmented reality is one of these technological advances, which will be benefited in numerous areas.

AR is a type of technology in computers generates images that are superimposed onto any surface to enhance the issue of concern. Augmented reality (AR) permits marketers to have a combination of the physical world and also the digital world, that allows each users and brands to attach so much before or throughout and when a product is purchased. AR might yet be used as a new way of ad in any written materials like tourism catalogues, brochures, pamphlets, flyers and then on. This implies that augmented reality might offer a much better understanding of what the client desires to buy, use or get pleasure from. It should

be regarding accommodation, entertainment or even special events. Indeed, some services are underutilized in tourism and hospitality. During this sense, augmented reality systems additionally be used effectively as a particularly persuasive power and should also offer advantageous opportunities to promote services with success (Yovcheva et al, 2012).

AR is taken into account extremely vital for promoting in several industries; but within the tourism industry there exist comparatively few researches and articles despite the very fact that tourism may fine benefit from the applications for these practices. Therefore, the most purpose of the article is to supply an understanding of the qualities and potentials of AR as a promoting tool for the tourism industry.

Smart phones and various other mobile applications have been widely used, which has provided new ways that allow the tourism industry to connect their visitors during their travels. Indeed, the wide use of smart phones has led to more and more mobile applications (apps) in consumer technology (Eden and Gretzel, 2012), and respectively AR has become one of the new advertising and marketing tools. AR had been used in many brands to appeal to customers and to improve customer commitment (Höllerer and Feiner, 2004).

With the help of AR, the users of smart phone and tablet computers point their built-in cameras on these devices at whatever object they want, which then generates a 3D video (Azuma, 1997; Linaza et al, 2012). This object may be a print advertisement or even a coffee cup at a well-known coffee shop. In other words, augmented reality allows businesses to combine the digital world with the real world. This extraordinary function is particularly appealing to younger tech-lovers who generally hesitate to use traditional advertising methods (Craig, 2013). AR, however, does not only look attractive to young population but also old population. This is well explained what ABI Research estimates about the market for augmented reality in the US: $350 million in 2014, which is much higher than $6 million in the US market in 2008 (Russell, 2012).

AR enables its users to take digital information such as a current photo and integrate it into a live stream video or into the real time, present environment of the

user (Höllerer and Feiner, 2004; Craig, 2013; Berryman, 2012). The software developed for augmented reality is the source of all these possibilities. Smart phones with the AR will make use of GPS technology and the location of the users will be identified to determine the orientation of the device (Taylor, 2013).

AR applications are characterized as an overlay of computer graphics to the user's actual field of view (Haala and Böhm, 2003). In augmented reality technology, in very basic terms, reality and virtual world are enhanced or augmented, which assures the users experience the combination of both worlds (Carmigniani et al, 2011, www.vrs.org.uk, 2013).

By augmented reality, virtual images are generated by computers and these images could be superimposed onto physical objects in real time. In other words, virtual images are used to interact by the users in a smooth way (Billinghurst, 2002, Azuma, 1997).

Augmented reality is utilized in marketing and advertising sectors as a tool to enhance particular features of a product, which makes it more appealing to the customers and in return increases sales. In 1960s, the first AR like systems developed and yet in the early 1990s, augmented reality was considered as a technology and a separate research area from virtual reality in its own right (Craig, 2013).

An AR system basically has to accomplish three requirements. The first requirement is about the combination of real world and virtual world, which is actually the core requirement of AR. The second requirement covers issues regarding the separation of AR from mixed reality or mixed media, which is achieved by 3Ds. In other words, in AR, the real world must be registered in 3D with virtual world. The third one requires AR to be interactive in real time. In other words, the system reacts to the users and can be updated in real time. Some off-line augmentations are already in use such as the computer graphics in movies but this last requirement actually makes AR distinctive from all off-line augmentations with all these features that it has (Wagner, 2007; Linaza et al, 2012).

AR used in many areas such as marketing, entertainment, sightseeing, tourism industry, fashion and medicine. For instance, in marketing, AR is utilized to present new products and thus attract prospective customers. A good example of this is Stella Artois, the brewing company. They utilize a phone application called Le Bar Guide and help people find pubs where they can buy Stella Artois products. Similarly, AR is used in gaming, entertainment and fashion. For instance, the November 2009 issue of Esquire was on AR. In addition to this, AR is used in museums to provide their customers with additional information about an object or current displays. Similar to museums, AR is used in sightseeing to provide information about a destination, a tourist attraction or the reconstructions of ruins in a particular place. Berryman (2012) states that AR is even used to provide "situated documentaries" that "narrate historical events that took place in the user's immediate area by overlaying 3-D graphics and sound on what the user sees and hears". Augmented reality is also used in many other areas such as games, military applications, advertising, marketing, sport, the arts, healthcare, architecture, construction, and entertainment as well as art, leisure and tourism and the workplace (Kounavis et al, 2012)

Challenges for Augmented Reality

The popularity and attractiveness of AR has increased recently. The primary reason for this is the growing use of smart phones that provide location-based services. Yet, there are still many challenges regarding the technology. First of all, AR is a technologically complex service. In addition, there are no standards for AR. This means that every single device and platform has to work for its own individual development because interoperability is not possible yet. Moreover, despite the fact that smart phones support the location-based services, they are not completely accurate in locating the device that is sought for augmented reality. Also, tall buildings may prevent the present GPS systems in smart phones from working properly (it may happen even indoors). More importantly than these technological complexities, augmented reality faces other difficulties as well. This

may include privacy issues, ethical issues and user issues (Carmigniani et al, 2011; Berryman, 2012; Russell, 2012)

Handheld AR is believed to be appropriate for real life usage by regular end users such as customers and home users. However, it may not be applicable for other variations of AR setups. The handheld AR is a suitable mass-market interface provided that it meets the requirements below (Wagner, 2007): 1. Low cost: It must be affordable to be used anytime and anywhere, which will therefore carry on the commerce of off-the-shelf devices. 2.

Robust and fool

proof: AR system must be strong and fault-free so that inexperienced users may be able to use it without any supervising, which requires the development of software and hardware that are particularly designed for non-expert users as well as the creation of intuitive user interfaces (Höllerer and Feiner, 2004). 3. Self - cont ainedoperation and networking support : It is crucial to promote collaboration which helps release the full potential of AR applications and this can only be achieved by networking. On the other hand, users desire to use their devices at anytime and anyplace, which requires self-contained operation. This means that a successful system is the one, which makes use of networking capabilities, but at the same time is able to run standalone (Wagner, 2007). 4. TracKingsupport : High quality and commercial tracking solutions are successfully utilized in many AR research approaches and it is compatible with the fact that the primary requirement to any AR system is probably real-time tracking. However, for the masses, AR system should utilize simpler solutions, which support built-in device capabilities. 5. Rapid prototyping: Everyday new applications are created and new concepts are introduced; therefore, it is important for AR system to keep up with these advancements. 6. Content creation: Despite the fact that all users are immediately amazed when they are first introduced to AR system, but after this “amazement” phase is over, they demand practical benefits. In AR system, these practical benefits require a strong content creation channel. To achieve this, a seamless chain of tools that counts on industry standards are needed because getting data in

a way into AR application is not enough for research (Carmigniani et al, 2011; Berryman, 2012; Russell, 2012; Wagner, 2007).

Three requirements should be fulfilled to boost the market. First of all, it should be socially acceptable. In other words, it should be subtle, distinctive and modest. Second is about providing natural interaction. This means that the users should be able to interact with the system in a natural manner. The last one is its being fashionably acceptable so that the users do not feel strange when they use the system (Santosa and Gook, 2012).

Augmented Reality Usage in Tourism Marketing

Smart phones provide services (either a GPS or a more advanced type of service) that help locate the device and at the same time the user at a particular place. Once smart phones receive data, a comparison is made between data from the camera and other data, generally image-based, reserved in the database. This process allows smart phones to identify or know what the built-in camera is pointed at. Sometimes, physical markers such as quick response (QR) codes on objects in a place cue augmented reality systems, which, then, retrieves data from a number of web-based sources, like Google, Twitter, Yelp, Flickr and a totally different source, to superimpose on that image (Berryman, 2012). Compatibility between the digital data and what the camera captures regarding the angle, the height etc. is required so that the final outcome emerged will be meaningful to the users, which is called AR that provides more information than what the present reality offers. As illustrated above, smart phones are good examples of AR; however, various other systems, which, for example, use special glasses or goggles to display information, also exist (Höllerer and Feiner, 2004). Some systems may utilize wearable devices and some others are conducted by gestures. Systems using specialized contact lenses for the display of information are being developed. It is also possible to have systems operating indoors and outdoors and systems that can operate only in designated areas. Apart from all these systems that operate differently from each other, other systems, which may be beyond our imagination for the time being, will definitely be developed (Berryman, 2012, Vaughan, 2009).

AR allows the superimposition of digital content like online information, graphics or other images on real world in the way they are seen through a camera. Therefore, AR may be utilized highly in tourism industry. When tourists, for instance, point the built-in cameras on their smart phones or tablets to an augmented reality image of a product, they can easily access to interactive 2D or 3D visual superimpositions or video demonstrations of this product. These augmented images may be the cover or page of a magazine, billboards at a bus stop, a daily newspaper or any other things available in one's environment (Höllerer and Feiner, 2004; Craig, 2013; Berryman, 2012). In this sense, augmented reality is a functional system in satisfying the needs of tourists who desire to have easy access to more information, entertainment and guidance at any time and place they want, so it helps tourism businesses build strong connections with mobile consumers. AR aims at uniting the expectations of consumers with the digital strategy of brands in reality. This may occur even in the advertising phase or during the sales of the products. AR allows consumers to augment any available objects or images in their surrounding as long as they have a unique visual profile such as logos, catalogues or brochures in general as well as hotel catalogues or brochures, magazine covers or pages, posters, billboard, retail displays, business cards, signs, symbols, tickets and the like (Carmigniani et al, 2011; Berryman, 2012).

Considering all the opportunities it provides, AR may be very well utilized as a marketing tool in tourism industry. With the help of augmented reality systems, consumers find any information they want regarding their holiday plans. For instance, they can easily reach the previews of their target destination, hotels and restaurants as well as various other information, attractions or facilities about them (Höllerer and Feiner, 2004). These systems will help them have an idea of what a destination, hotel or restaurant offer and how the atmosphere is in a place and what might be the possible tourist attractions to visit, which actually helps them make their decisions. For instance, consumers may download the Starbucks Cup Magic application on their smart phones and they can point it to the cup they

are holding, which will allow them to produce animations in seconds involving five different characters (an ice skater, a squirrel, a boy and his dog sledding and a fox), which are illustrated on the coffee cups. They can also interact with these characters and even learn about special offers or send e-cards or e-gifts (Russell, 2012).

Augmented information systems not only merely provide valuable and crucial information about a tourist attraction or destination but also maximize their experience in their travels and offer entertainment opportunities as well (Kounavis et al, 2012). AR also has the capability to offer customized content and services to the all users including tourists according to their particular needs. In other words, augmented reality may function upon pre-requests and display content accordingly when tourists are visiting the sites in a destination. Because mobile augmented reality applications support the addition of new layers to their reality, an interactive and highly dynamic experience is achieved. In addition, tourists can also benefit from other facilities or services and adjust their navigation by the help of the commentary of the destinations or locations of their choice because these applications are mostly on mobile devices like smart phones or tablets with GPS functionalities (Carmigniani et al, 2011, Kounavis et al, 2012).

Tourists may use mobile AR applications for many things such as searching for information, sharing or exchanging information and useful tips as well as comments on a location or destination with a large network. Thus, connectivity among other users, in this case tourist, may be achieved and the sharing of experiences is enhanced (Russell, 2012). Furthermore, mobile AR applications can help tourists prevent themselves from information overload or irrelevant information by tailoring their needs and adjusting the settings of the applications they are using upon request. It is beneficial for tourists because a vast amount of information can be found about historical sites and museum exhibitions and it might be overwhelming to get the information they particularly seek for. Therefore, museums, heritage sites, cities and tourist professionals in general may organize and transmit information in layers or they may provide information upon

request, i.e. according to the tailored needs of tourists with respect to their interests, age, occupation, information level and so forth. Personalizing their visit according to their wish, as a result, may maximize the enjoy they take from the trip and make it a remarkable experience (Carmigniani et al, Berryman, 2012).

Mobile AR applications can also be regarded as social applications because they enable the users to communicate in a large network. Therefore, it may be argued that applications that support the functions of augmented reality "must exploit the unique characteristics of mobile devices and mobility in order to enhance and enrich the interactions allowed" (Kounavis et al, 2012).

Finding destinations is not the only function that augmented reality. It is also used to display background information. For instance, Columbia University has developed a mobile AR restaurant guide, which provides an interface through which the users can reach a database of all restaurants in Morningside Heights, New York City, via an overview 3D map. By using this guide, the users can make decisions among a number of options regarding their preferences. If the users have selected an establishment, they can reach further information via a popup window, which describes the restaurant briefly, displays the phone number and provides an image of the interior of the place. This popup window also allows the users have a look at the menu, read the reviews of the restaurant, if there is any, and visit the restaurant's website (Höllerer, and Feiner, 2004).

It is certain that such personal platforms would be appealing to direct marketing agencies. For instance, in tourism businesses, pedestrians could be offered virtual discount coupons. Similarly, relying on the users' individual profiles, virtual billboards could advertise products that are particularly attractive to a particular user. Moreover, on their eyewear, the users can view virtual 3D product prototypes. In such an information-rich environment, to secure the users from unwanted information augmented reality platforms would need to integrate filtering and management mechanisms (Höllerer, and Feiner, 2004).

Museums can have to be compelled to do everything they have interaction with their customer, through their displays, education and reaching programs, and

by being as open as potential to what their audience desires. Museums round the world nowadays face the challenge of accelerating and maintaining traveler numbers, particularly with younger audiences. A fall in guests is seen by most as a negative outcome, each financially and in terms of wider social and academic impact. It will happen because of a variety of things; however one among the foremost vital is that museums will usually realize themselves competitive with the product of the industry that at its heart is within the business of telling a decent story.

Seeing outdoor areas in their historic context constitutes one vital application of augmented reality that native museums have embraced. An excellent example of this can be Clio, a non-profit, cooperative effort between college at Marshall University that's a crowdsourced geospatial guide to history and culture. Users will contribute to building the site by pinning images or videos of historic or cultural events to specific coordinates (Radsky, 2015). One trending augmented reality application centers on the conception of "re-creating" the initial, or exploitation data of paint and art conservation, also as digital imaging technology, to reconstruct paintings to their original state. As an example, comes together with Harvard's "Augmenting Rothko," the Vincent van Gogh museum Antwerp's "Van Gogh re-created," and also the church of Sant Climent de Taüll, have digitally reconstructed original works of art, permitting guests to examine the valuable design in its original condition (Radsky, 2015).

Museums might build interactive learning eventualities, which might remodel guests from passive viewers and readers into active actors and players. Within the latter case, the educational method is far more practical. Museum curators will simply prepare custom-made eventualities appropriate for youngsters of various age teams. Moreover, such displays may be used not solely among a museum, however additionally during a college class (Wojciechowski et al, 2004:11).

AR is starting to create an effect on modern art. Examples embrace SFMOMA's art project that consists of projected creative styles onto the outside of

their building, and "A Moment in Time" photography show that brought motion to still images with Aurasma's AR technology. There's no doubt that as artists continues to make augmented projects; art museums ought to adopt the technology simply to show their work (Radsky, 2015).

One of the foremost common target audiences for augmented reality applications are youngsters and younger students. In such cases, the most goal of AR is to show the historic, artistic, or scientific material during a fun and fascinating manner. The Samsung Digital Discovery Centre at the British museum focuses on "enabling youngsters to bring the world's history and cultures to life through advanced technology." The Science museum in London has developed an application that turns James May, one among the hosts of the favored BBC show "Top Gear," into a virtual museum guide, documented during this fascinating video that explores the goals and technology that went into making the appliance. Additionally, the invention Centre's augmented reality guide to the Parthenon gallery, "A Gift for Athena" was recognized at the 2015 Museums and the internet Conference. The Asian Art museum in San Francisco added seven AR enabled displays as a part of their 2013 Terracotta Warriors exhibition. In conjunction with celebrity guides, ancient Chinese armies, and Greek gods, it's maybe not shocking that dinosaurs, that never appear to stop wonderful youngsters or adults, became a primary action for augmented reality applications. Examples embrace The National museum of Natural History's "Skin and Bones" app, the Cincinnati museum Center's "Ultimate Dinosaurs" exhibition, and therefore the Royal Ontario Museum's arrange to bring these large reptiles back to life (if solely through the iPad screen) (Radsky, 2015).

The Cleveland Museum of Art and Bologna's Museum of Archeology are exploitation QR (Quick response) codes to try and do audio tours of their collections. The tour is for the new galleries: ancient near eastern, Greek, Roman, Egyptian art; Byzantine and medieval art; African art; and prints and drawings. Once the code has been scanned, the user is taken to a web version of the audio tour. The poster-sized art ads are in eleven completely different kiosk locations

throughout Cleveland, together with little Italy and Tremont and smaller posters were placed thorough libraries and different public areas. The QR code takes art enthusiasts right to the museum's webpage, driving internet traffic and permitting tours to be detected right off the smartphone, promoting the new galleries. Smithsonian Natural History Museum used QR codes as a part of an exhibition on Neanderthals. The "MEanderthals" campaign's QR codes sent users to a web site wherever that may transfer a photograph, see what they might have seemed like 30,000 years past, and share via Facebook and email. The Virginia museum of Fine Arts, in coordination with the Martin Agency, launched a campaign delivery along QR and AR. They have created areas in multiple cities across the East Coast and in thirty three Richmond Starbucks to act as virtual museums. Places like vacant tons or the streets of SoHo, are remodeled into art galleries exploitation QR codes that launch the AR app (using Layar) that "places" the art "on the wall" of the smartphone. People in New York and Washington, D.C. get to get pleasure from this exhibition as they walk down the streets of their town. To additional the QR cause, the print and out-of-home components used a portrait of Picasso created entirely of QR codes. Once a phone scans the QR image, it's re-directed to a landing page that includes Picasso's work and a call for participation to shop for tickets to the exhibition (Wheeler, 2011).

AR can be a strong tool for any hotel's promoting campaign. The technology uses computer-generated sensory inputs to change the approach users understand their current atmosphere. By embedding "auras" (the business term for an augmented reality digital element) on physical objects, hotels will bridge the gap from their physical properties into guests' digital worlds. By exploitation of AR in hotels, the experience of the hotel guests is often improved. Hotel owners will have applications which may offer the guests with the direction to their hotel rooms once they sign in with the app. Options may be added which could be able to offer the guests with obtainable room services that they will determine exploitation their mobile devices within the reception (Cross, 2015). Employees' communication may well be created easier with AR. Presently AR headsets facilitate the military

to speak with one another while not really talking. Similar techniques are often utilized in hotels (Wilson, 2014). Marriot Hotels had teamed up with Blippar and revealed an interactive advertisement within the wired magazine. The users of the application might scan the advertisement and see a video that showcased the innovations of the hotel's chains (Borison, 2013). Omni Hotels and Resorts created an application known as Omni Live that the users might transfer to check videos showing chefs at work within the kitchen, virtual tours and client reviews (Wilson, 2014b). The Hub hotel from Premier Inn, the U.K.'s largest lodging chain, is one in all the few properties that have incorporated the technology. Every hotel room at the property includes a wall map of the encompassing area. Customers will purpose their smartphone at the wall concerning and examining info about native points of interest. With the instance of the Hub in mind, hoteliers might probably use AR to boost brochures and different printed materials. Photos sitting at a hotel's bar or restaurant and having the ability purpose your device at the menu to check reviews and suggestions of varied offerings. Alternative sensible uses for the technology would be permitting guests to check the last time their room was cleansed, or a pop-up hotel map (http://hospitalitytechnology. edgl.com, 2015). To assist find the proper hotel, the Hotels.com world among Wikitude provides not solely an AR view and placement of all obtainable hotels, however the graphic interface additionally clearly marks out the value client can pay for the evening, also as a star based mostly guest scoring system. Once guests have found a hotel that matches their criteria, clicking on the floating icon can point out hotel.com powered data together with the hotels. For power users who wish to check and distinction, the Hotels.com world additionally offers a listing view that lets quickly scroll up and down a list of hotels close to there. An easy tap on the list icon within the top navigation menu can add an extra layer on high of the AR view and present a listing of hotels around. This may be quite handy once guest has narrowed his/her decisions all the way down to 2 or 3 hotels and don't wish to spin and locate every individual hotel. Correspondingly the geographic location, guest may notice awesome range of Hotels.com choices around. For instance, if you're within the

middle of Manhattan, there'll be literally many hotels around you. So as to more customize your experience, Wikitude have designed a filtering mechanism into the world. By clicking on the funnel icon within the top menu, will quickly and simply filter by value/price, user rating, and distance (www.wikitude.com, 2016)

In case of restaurants, you'll be able to have an interactive menu that comes alive once diners point their device's camera at any specific product. 3D photos of the dishes and drinks may be offered exploitation AR. Dining is a crucial a part of the hospitality business. Diners returning to the restaurants will have an interactive dining expertise with AR. They might be able to choose from totally different obtainable themes and customized their tables. AR might additionally facilitate in translating the language of a menu to those that the guests might browse simply. A multi-media menu might additionally offer them with the choice to check however a dish would seem like. Equipped with an AR application, guests will have the most effective eating experience (Wilson, 2014b). McDonald's has used AR in several ways in which in its numerous shops. Whereas there's a McMission AR application that lets users play mini puzzle games and win prizes. In Inamo restaurant in London, users will choose their table prime and customized with augmented reality. They're additionally able to order things from multimedia system menus and see live video-feed from the kitchen (Wilson, 2014b). Ordering healthy was next to not possible at the most restaurants before ERICSSON developed their interactive 3D AR menus. The application permits guests to look at pictures, ingredients, and nutritional info for any menu item. And it does translation for various languages. The FAST FOOD REALITY application projects restaurant locations and data over time period pictures. And there are maps too (Allen, 2016).

In order to incorporate families into its marketing strategy, Boston's Restaurant Bar launched a 3D AR game for the kids. The application keep the kids entertained whilst allow the parents to enjoy a nice meal every time they visit the restaurant. Additionally, training activities are also available on the app to continue the relationship brand when the customers are not dining. Vida e caffee, a chain of

high-end espresso and coffee franchises, has partnered with Atlantis; the app's name is "Discover Atlantis". With this application The Palm in Dubai and Dubai Tourism aimed to lure customers from their customers and form mutually beneficially partnerships. By using an interactive coffee cup sleeve augmented by Digital Narrative, a Layar Certified Partner, they provide customers a chance to win an all-expense-paid trip to Dubai. Customers buying a cup of coffee with the sleeve can scan it after downloading the free AR application. After scanning, they are exposed to a video about Atlantis and Dubai and given a chance to share the promotion on their social media profiles (www.credencys.com. 2014)

The high rates of development of telecommunication technologies and mass distribution of the Internet in mobile phones and the tablets. In 2016, it accounted for 51.3% of the world's Internet traffic, desktop PCs and laptops - 48.7%). Mobile devices and services have now become the heads of entertainment and business people's lives, as well as successful communications.

According to eMarketer estimates, about a quarter of the world's population uses smartphones today, and by 2018 it is predicted that they will be more than a third of global consumers or more than 2.56 billion people.

The results of GfK Ukraine's online shopping survey, as of April 2018, showed that 50% of Internet users across the country aged 16 and over who had an online shopping experience were looking for product information from smartphones and in 43 % made an order using the smartphone.

It is important to note that the respondent audience as a whole is quite active: on average, they use 3-4 gadgets and 85% already use smartphones.

According to the statistical company StatCounter, about 13% of Internet traffic in Ukraine falls on mobile devices (smart phones generate 10% of traffic, tablets - 3%). At the same time, about 91-124 minutes a day, on average, users spend 12-64 years in large cities (from 700 thousand people) on the mobile Internet (in the age group 12-24 years, this figure is 124 minutes, in the group of 35 -64 years - 91 minutes).

1.3. Methods and stages of development of mobile sales

All this could not make travel agencies stand aside, as innovations in mobile devices, new business models and technologies change every adjacent market, as the mobile industry becomes more than the developing market of smartphones. Representatives of travel agencies have long understood that on tourist trips travelers value comfort and convenience most of all and that's why many people often use travel agency services, and do not plan to travel independently, as it is always pleasant, when everything is thought out for you, you can relax and save a lot of time for more pleasant pursuits, and the travel agency will take care of everything you need: selection of the tour, hotel reservation, solution of delivery issues, etc. In this regard, many tourism companies have recently turned their attention to the development of mobile applications for tourists, because with the help of mobile applications the purchase of tourist products can become even easier and more convenient for them.

85% of travelers take mobile devices with them, so in our time tour companies need to involve clients in the process of interaction and be in touch with them at every stage of cooperation.

Travel agencies develop such mobile applications, both independently and with the help of companies specializing in this. For example, the tour operator Pegas Touristik together with the company SAMO-Soft launched the free iOS-application iPegas intended for tourists and oriented to the search and booking of tourist products in real time mode (for instant reservation to the owners of the iPad or iPhone all current tourist offers of the tour operator are available)

Thus, the clients of the travel agency (individuals) do not now need to book and book the tour through the site of the tour operator or travel agency. Mobile system iPegas allows users not only to view all information about the current offers of the tour operator, but also to book a favorite tour directly in real time. The same way went to the tour operator TEZ TOUR, which by means of Temamark Ai TeV developed a mobile version of the site to search for their tours on the basis of the

finished search module, as well as a "hybrid" mobile application for Android that works with this mobile site.

Mobile applications are very easy to use, the first thing you need to do is download the mobile application on Google Play, iTunes, etc. D. And install it on your phone or tablet, after which you can start working with it.

Mobile applications of most tour operators allow customers:

• Independently look for a tourist product for the most diverse range of subjective parameters and select the best, in the opinion of the tourist, the options for tours;

• Evaluate tourist destinations for their tourist trips, selecting tourism destinations for travel in accordance with seasonal characteristics and individual personal preferences;

• Use additional services (for example, insurance, taxi booking, VIP-hall reservations at airports, telephone interpreter services, etc.);

• Conduct a comparative analysis of price proposals and select the most cost-effective tourist product;

• View descriptions of all hotels, guest reviews, photos;

• Specify access to funds on the card and save the order;

• Study and use promotional applications. For example, the client of the tour operator TEZ TOUR can receive a coupon up to 2500 UAH. when ordering a tour through its mobile application. The size of the discount coupon depends on the cost of the tour (the cost of the tour is up to 15 thousand UAH - a coupon for 500 UAH, the cost of the tour is from 15001 to 25000 UAH - a coupon for 750 UAH, the cost of the tour is from 25001 to 35000 UAH - a coupon for 1000 UAH, etc.);

• Use the application as a reference for finding objects of interest to tourists: catering enterprises, hotels, shops, etc .;

• Be able to navigate - the mobile application allows you to configure it to automatically find the location (address) of the nearest office of the tour operator using the geolocation function;

• Use the application as a tourist guide, which informs about a variety of interesting tourist places and sites that are worth visiting a tourist during a tourist trip;

• Plan your tourist trip and find interesting entertainments and new places to visit;

• Subscribe to the liked tourist product, where the application will notify the client of any changes (vacation prices can vary from day to day), and he will not miss a profitable offer and will buy a tour at the best price, simply by sending an application;

• Be able to organize a direct call - this function will allow customers (users of the application) to quickly contact the travel agency without having to search for a phone number. By pressing just two buttons, any client can quickly call his manager;

• Be able to view photos in the gallery from different tourist trips of the managers of the travel agency and its customers (the application allows you to upload images). Graphics sells excellently, especially for niches like entertainment, recreation, travel. The application must include an image gallery, which can be broadcast directly from the Instagram account to the application or uploaded manually;

• Be able to pay for the tour (there is an option to integrate payment systems for online payments through a mobile application);

• Be able to use the info tab, which helps to publish interesting content in the application. Any tourist wants to get good advice on recreation in a certain resort, find out how you can save on excursions or in what establishments it is better to have dinner, etc. Such useful content is always liked by users, so the application will necessarily cause customers only positive emotions. Also, the information tab will create a two- or three-level travel catalog (for example, rest in Ukraine, vacation abroad);

• To receive the opportunity of information news support. The application allows you to automatically broadcast tourism news from the Internet for certain specified

keywords, which allows customers to stay informed, and the travel agency to create useful content, just by correctly setting up this tab.

This is an incomplete list of the opportunities that travel companies give to mobile applications, so they have enormous potential and a lot of built-in functions that will create a high-end marketing tool for the travel agency. Customers will appreciate the offered list of services and comfort in using a mobile application.

Travel agencies that have a mobile application are always a few steps ahead of their competitors, as they can provide their clients with much more interesting and profitable offers than a travel agency that does not have its own application.

In addition, clients are involved in constant interaction with the travel agency, receiving interesting articles on their mobile phone, announcements of new routes, coupon codes or simply beautiful photos from travel, and inspired by them, a person can immediately apply for a tour by simply clicking on the button .

It is important to note that the travel agency, using a mobile application, can get a loyal customer, who will certainly bring someone else, because he will tell relatives, friends and acquaintances, for example, about the "burning tour" or about the tour company, directly from application.

At the same time, the ease and simplicity, convenience and comfort with which the client purchased a tour through the mobile application on the desired journey will force him to share this good news with his friends, and the travel agency will thus expand the range of its potential customers.

Conclusion to part 1

All major tour operators have long understood the benefits of using mobile applications and actively distribute them among their customers.

The mobile application of the travel agency has a number of advantages:

Ease and simplicity of cooperation with the consumer of the tour product without geographic (spatial), temporal and other restrictions, and also without binding to a stationary computer or laptop;

Free marketing tool for active promotion of tourism products to the masses;

Increase the efficiency of booking a tourist product;

Advertising and popularization of the travel agency brand and increasing customer loyalty to the company;

Reduction (minimization) of the load on the online search system of tourist products on the travel agency website.

In order to ensure that the mobile application of the travel agency is really in demand by users and not lost among themselves and successfully promoted the tourism business, the tour company management and application developers should pay attention to the following fundamental points:

Ease (simplicity) of using a mobile application. When creating an application, the travel agency should always remember that not all users of mobile devices (iPhones, tablets, etc.) have considerable experience in communicating with mobile applications and what seems obvious to one person may be incomprehensible to another (for example, a client tour agency), and it will just close the application. Therefore, the travel agency should develop the interface of its application as simple and understandable as possible, inserting (where possible) various explanatory inscriptions. Otherwise, the travel agency risks that users simply ignore or delete its mobile application;

Literate and interesting design. Modern society likes to look at beautiful things and so the mobile application of the travel agency should be pleasant for the eyes of its users. When developing an application, a travel agency should avoid unnecessarily bright, aggressive and sometimes annoying colors, and check that the text labels are read well against the background of the chosen color scheme. A rational balance between design and functionality is the key to the success of the mobile application of the travel agency;

Availability. This factor is very important in the modern world, where many consumers are concerned about the price. Therefore, it is desirable to make the mobile application free of charge (which is the experience of most travel agencies that have already acquired them) or have a fairly democratic price for downloading it (an excessively expensive price for downloading and using the application can scare off potential customers);

Constant upgrade of information. As practice shows, users have little interest in applications in which they can not learn new, interesting and necessary (up-to-date) information. Therefore, developing a mobile application, travel agency management must systematically update both the content of the application and its functionality. It is advisable to use tabs that dynamically add new information, for example, subscribe to RSS feed, "News" tab, etc., as these tabs will automatically deliver new materials to the application. At the same time, one should not forget to inform consumers about new events and actions in the sphere of tourist activity of the enterprise. Thus, the dynamism and actualization of the mobile application can make it more competitive in comparison with the applications of tour-competing firms;

Work with positive responses to the mobile application. In today's socialized society and with the growth of technological innovations (the number of applications on the market is constantly increasing), users are increasingly oriented to ratings and reviews when downloading mobile applications. Therefore, the available positive feedback from the mobile application of the travel agency can greatly enhance the users' confidence in it and enhance the reputation of the travel agency itself. Sales managers should ask their loyal customers who are active users of the mobile application of the company, leave feedback about it, and also involve popular bloggers and people who have a high reputation in the society;

Intensive promotion of mobile applications. This is the fastest way to get the recognition of the modern consumer, even if the mobile application of the travel agency is not quite unique, in places uncomfortable in operation and perhaps aesthetically not as beautiful as one would like. To this end, the travel agency should use all possible ways to acquaint the community with its application, for example, by placing a link on its own website, in the social networks of the travel agency, by sending information about it to its subscribers. The travel agency should constantly come up with new campaigns and marketing moves to connect its old customers to the application and attract new interested users.

PART 2.

ANALYSIS OF THE EFFECTIVENESS OF MOBILE SALES IN LLC CORAL TRAVEL

2.1 Management of efficiency

With 20 years of professional experience in the field of outbound tourism, Coral Travel, offers on the Ukrainian tourist market only high quality tourism product. In 2014 the group of companies OTI, which includes Coral Travel, finished with record-breaking results, sending over 3 million 100 thousand tourists and showing 24% growth over the previous year. Coral Travel offers the best resorts and hotels in 28 countries – Turkey, Spain, Greece, Egypt, Thailand, Tunisia, Morocco, Israel, UAE, Andorra, Austria, China, Cuba, India, Mauritius, Tanzania, Dominican Republic, Indonesia, Maldives, Vietnam, Seychelles, Sri Lanka, Singapore, Mexico, Cambodia, Jordan and Ukraine. The company is constantly working at opening new destinations. The tour operator also organizes group and individual FIT tours based on our own charter programs and regular flights, develops incentive-, congress-, sports and other types of tourism, and is actively engaged in online sale of tickets. Coral Travel company (Ukraine, Poland, Belarus, Georgia, Turkey) belongs to the large international structure OTI Holding which also owns companies Odeon Tours (Turkey, Egypt, Thailand, UAE, Spain, Greece), A-Class Travel (Turkey), Holiday Market Service (Turkey), Otium Hotels (Turkey, Egypt), Xanadu Resort Hotel (Turkey), OGD Security and Consultancy (Turkey). The total number of employees is more than 7,000 persons. Business of all members of OTI Holding develops rapidly, thanks to the use of modern high technology, professional approach and continuous quality control. Coral Travel operates its business in partnership with Odeon Tours, also owned by OTI Holding. Odeon Tours received an international certificate ISO 9001:2000 for quality management from international certification organization BVQI.

Serving the tourists with average or above average income level, Coral Travel is committed to 100% satisfaction of all its customers.

Regular outgoing programs of charter and regular air transportation are carried out from the largest cities of Ukraine.

Coral Travel offices are functioning in Kiev, as well as in Lviv, Odessa, Zaporozhye and Kharkiv.

The company pays great attention to the quality management system and human resources. The brand Coral Travel is positioned in the Ukrainian market as a mark of reliability and quality, which imposes a special responsibility on the company and is stimulus for further development and improvement.

Goals and mission

The mission of Coral Travel is to help create the most civilized tourist market, where relationships in the chain customer-agent-operator are based on mutual trust and respect. The ultimate goal of the company - to make quality recreation accessible to all Ukrainians. The main objective of Coral Travel - further increase of the company's efficiency and competitiveness in the market, which suggests focusing efforts in four areas:

- management of market expectations by strengthening loyalty to the company's product and effective steps to further enhance awareness of Coral Travel brand;
- improving the company's performance due to higher sales volumes and tourist product differentiation, continuous monitoring of the current situation in the market and rapid adjustment plans;
- improvement the company management quality through effective planning and increasing the accuracy of predictions for performance;
- working in accordance with the highest international standards, introduction of innovative tourism technologies, without which it is impossible to make steady progress.

The future plans of Coral Travel - increasing the share occupied in the market, expansion of business by improving the quality, development of new areas and expanding the range of services provided.

Prospect of Development

Specialists of the company carefully study the market and predict the future direction of demand development. Long-term plans and plans for the next 3, 5 and 10 years are constantly updated and supplemented with consideration of trends in the global tourism market and international policy.

The aim of Coral Travel - consolidation of its leading position among Ukrainian tour operators and increase in the market share occupied by the company, improving at the same time the quality of tourist product, as well as further implementation of innovative technologies, which are essential for the dynamic development of modern tourist industry. The company has become an example for many Ukrainian travel agencies which adopt experience of Coral Travel. This, in turn, is a stimulus for further development of the company.

Quality of the Product

The company practices in its work a comprehensive approach to quality. It stands for quality in everything - from the proposed product to the work of employees in all divisions of Coral Travel. Thanks to this, Coral Travel name is always the criterion of the highest quality of the services provided.

Company performs a comprehensive quality control of all components of tourism products at every stage of its formation, promotion and implementation.

Coral Travel is engaged in introduction of ISO 9001 requirements. Relations with partners are based on the principles of openness and honesty, without which it is impossible to build a successful business.

Each agent who purchased Coral Travel product, can be confident that his client will be provided only qualitative services, carefully tested and selected by experts of Coral Travel.

That's why the product offered on the market under the brand name Coral Travel, is in the eyes of consumers and partners synonymous with reliability and quality.

Social Responsibility

The company intends to enhance the prestige of Ukrainian tourist industry, to establish fair competition and civilized relations between market participants.

Speaking for the creation of civilized tourist market in Ukraine, Coral Travel leaders understand that it is impossible without economic development.

The company is actively involved in economic and social life of the country.

The company's management is making an active contribution to the implementation of state programs in the sphere of tourism.

Coral Travel is clearly aware of its responsibility to society as a whole. Numerous charitable events are aimed at supporting poor and needy. The company provides assistance to children's houses, working closely with various charities, paying particular attention to orphans and veterans.

Values and Principles

Absolute transparency and respect for the customs and traditions of the country where the company's activities are performed.

— Employees of the company are not only an integral and essential part of the business process, but also members of Coral Travel large friendly family.

— Relationships with partners are built on long-term mutually beneficial basis. That's why all the partners of the company are its loyal friends.

— Competition in the market is a natural stimulus for further development of Coral Travel.

— In Coral Travel we respect opinion of the partners and competitors, without prejudice to criticism and are always open for cooperation.

— Participation in charity and social life of the country is our obligation.

— The Company strives to ensure that every holiday branded by Coral Travel was a happy journey for every tourist.

— Coral Travel fully contributes to further development of tourism consumer market, realizing that company's success is possible only with steady progress of the entire travel industry.

Components of success

The main components of Coral Travel success have been and remain flexible policy of the company, receptivity to innovations and openness to new, progressive

methods and technologies. Company corporate ethics is based on the combination of team approach to the implementation of assigned tasks with professionalism and creativity of each employee, as well as obligatory decency and responsibility to all business' participants and customers. Our doors are always open to talented and active people who want to become a part of the professional team and increase the company's achievements.

The success of Coral Travel brand is high professionalism and creative approach to business of all employees. This helps us to improve and move forward.

At the forefront of Coral Travel activities since the very first moment of its creation is meeting the needs of all categories of our customers. The ultimate goal of the company is 100% satisfaction of each tourist by product under the brand Coral Travel, regardless of how many tourists are served by the company.

The Coral travel tour operator does not have an official mobile application, which implies the conclusion that Coral travel considers them to be "superfluous" in their activities - as they consider the application only as a channel for direct sales of bundled products. Accordingly, if the tour operator successfully sells tours through its agent network and does not bid on direct sales, then he believes that he doesn't need a mobile channel yet. The "mass" tour operators proceed from the same logic: therefore, the functionality of their existing applications, as a rule, is rather stingy, "linear", and boils down to duplicating the site and the possibilities to choose and buy a tour through a mobile application.

The application "Coral Travel - hot tours" from the developer Lemuria (appforbiz.ru) shows the actual prices from internet mirror of tour operator online, but is not an official application of the Coral Travel tour operator and is not related the website Coral.ru or Coraltrevel.ua

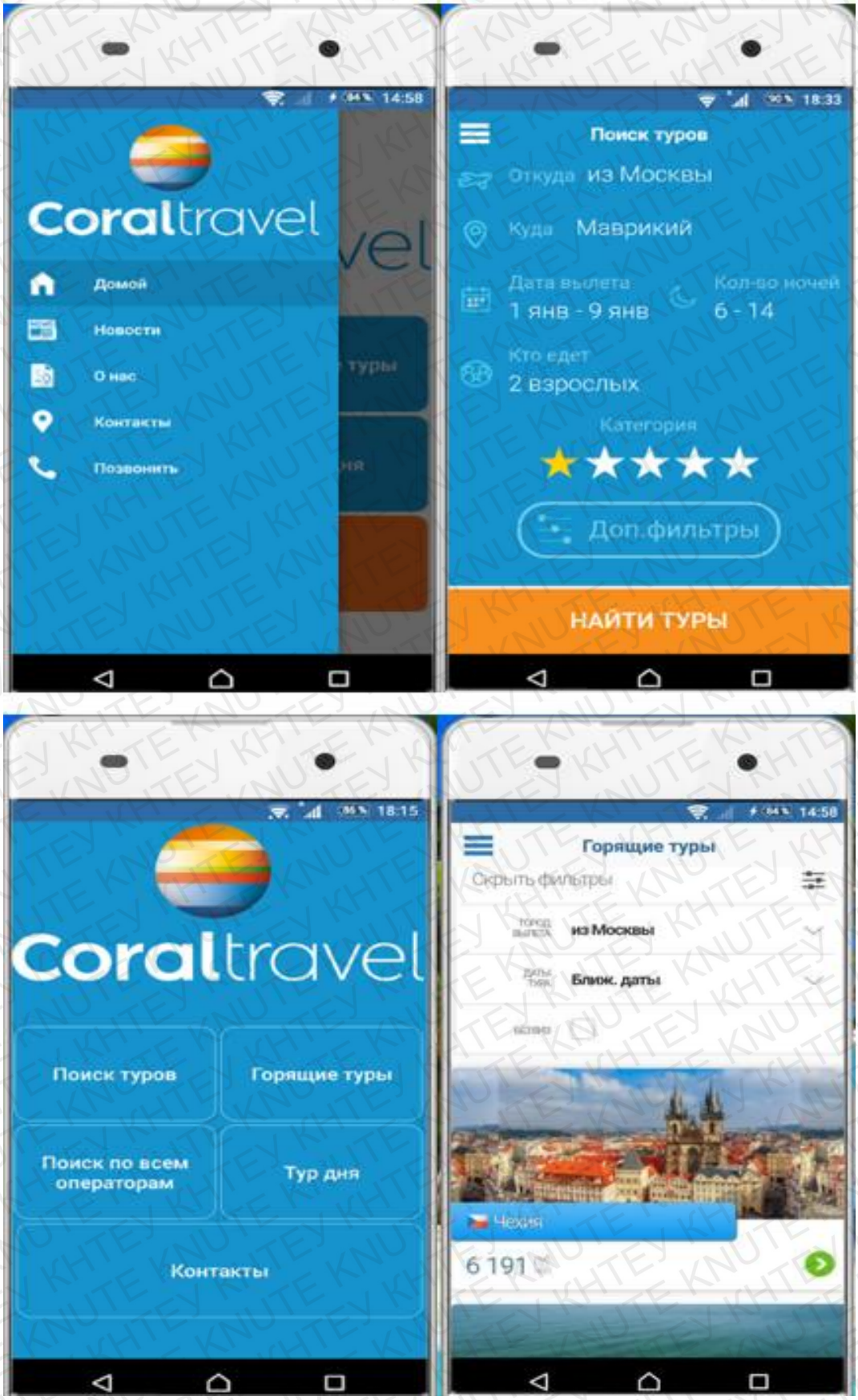

Fig 2.1 Interface of application

Platforms: iOS, Android

Application Type:Application for tour operator

Coverage area;Russia

Section / Topic:Tourism, culture, leisure and recreation

Link:https://play.google.com/store/apps/details?id=my.coraltourism

Target audience:Tourists, residents of Russia

Developers:App 4 biz

Contact developers:den-911@ya.ru

User rating and number of downloads/installations:

User rating iOS : 3.2

User rating Android : 3.5

Number of installations: 100000 +

Description of app

Search and last-minute tours from the tour operator Coral Travel - one of the recognized leaders in the tourism industry, a modern and universal approach, the work of which allows you to select the most optimal offers for all groups of customers, covering all the most popular destinations.

Coral Travel's many years of experience has allowed the competent approach to the choice of partners and to cooperate only with reliable leading airlines, representatives of hotels, professional guides, drivers and more. To organize, both individual and group tours,

corporate, sporting and VIP travel. This necessarily takes into account all the individual wishes of customers, which are processed and adjusted exclusively by experienced tourist managers.

In our application you will find:

- Tour of the day - The best trips and last minute tours, selected by our managers by hand, daily update of the most interesting tours!

- Quick and easy search for tours and tours by country and resort.

- Prices for vouchers online.

- Promotions, discounts and special offers on all trips.

- Last-minute tours - daily updating of the most actual offers and last-minute tours from all operators.

- We are always in touch, if you have a problem even abroad, you can always contact our managers through whatsapp and Viber, all that is needed is the Internet that is in any hotel. - You can buy any tour you like in our offices or online. In the case of a promotion action from our agency, the cost can be taken into account the discount from the price of the tour operator, available when you make a tour with us. Our offices are located in Moscow, and registration of tours from the regions is possible online. We are always happy to offer the possibility of purchasing hot tours from Coral Travel. A wide selection of special offers from Coral Travel will allow a few to diversify the trip, adding to it an excursion program, for example, visiting several resorts at once and much more.

The application is submitted by the company operating on the basis of an agency agreement with the tour operator CoralTravel.

We guarantee exceptionally high-quality rest: comfortable airliners, a modern car park in all proposed areas, qualified guides. We have a good partnership with hotels.

The main destinations, which include tours, including last-minute tours to Turkey, tours to Thailand, tours to Spain, tours to Greece, tours to Goa (India), the Czech Republic, tours to Cyprus, tours to Italy, tours to Hungary, tours to Austria, tours to the UAE (Emirates), tours to Bali (Indonesia), tours to Vietnam, tours to Andorra, Israel, tours to the Crimea, Tours in Russia, Maldives, Seychelles, Mauritius, Cuba, Dominican Republic, Kenya, France, Tunisia, Morocco, Mexico and many others.

We provide various types of tours - excursion, beach tours, ski tours, Cruises, yoga tours, wellness tours, wedding, diving tours, gastronomic, pilgrim, corporate leisure, wellness tours, student tours, fitness tours, horse tours, shopping tours weekend tours. In the search engine you will not find so many filters, but you

can always contact our offices by calling or via the Internet via Whatsapp and Viber. Our experienced managers will always help with advice!

This application was released on May 10, 2017, since 3 updates have been released:

Version 1.0 Sep 21, 2017- Added service "Tour of the Day" - manual collections from company managers. All fees are already included in the price.

- Added multi office.

Version 2.0 Feb 15, 2018- The functionality of the Day tour has been improved, now there are more filters, in addition to countries, you can choose the type of holiday, such as ski holidays, all-inclusive, etc.

- Added the ability to call on Whatsapp and Viber

- Optimized search engine, the search has become even more convenient and faster.

- Improved design and interface.

Version 2.1 Feb 18, 2018 - Now our search engine saves your chosen parameters. - The functionality of the Day tour has been improved, now there are more filters, in addition to countries, you can choose the type of holiday, such as ski holidays, all-inclusive, etc. - Added the ability to call on Whatsapp and Viber - Optimized search engine, the search has become even more convenient and faster - Improved design and interface - Fixed minor bugs

In fact, “Coral teavel Last Minute Tours” is a very mediocre application with a minimal set of functions and, subsequently, a simple design: Search tours - mirror site: sletat.ru in the format of a mobile application. Tour of the day - offers made by managers in manual, including last minute tours and the most advantageous offers from CoralTravel. Contacts - Address and numbers of several representative offices of Coral Travel in Moscow.

All this functionality is relevant only for Russia as when ordering a tour in the column “From” In the presence of only the city of the Russian Federation, respectively, for users living in any other country this program is useless.

In the modern market of applications for tour operators, “Coral Travel Last Minute Tours” has a very low competitiveness since it cannot offer anything new in terms of functionality or marketing-beneficial programs for users. Also, the main motive of installing the application of a particular operator is also unclear. In a highly competitive market with a large share of agency sales, relatively low loyalty to the brands of tour operators and high price sensitivity of tourists, it is quite difficult to motivate the user to choose and buy tours in the application of one particular tour operator, without unique functions and marketing moves aimed at attracting and retaining the target audience.
In general, this is a typical situation for the first steps in the digitalization of services - first sales, then everything else. But there are nuances. And the nuances are very important. The mobile channel in its modern form is suitable for the purchase of well-known, simple (in the description of their consumer properties) goods. Such, for example, which are sold on AliExpress. At the same time, the mobile application is not very suitable for "holiday sales."

Let me remind you that the tour operator does not sell the tour (this is a business concept, "shell"), namely, "rest." Choosing a holiday from a tourist often requires time to study, a detailed description, large photographs, and, most importantly, the availability of tour comparison systems for several parameters. The interface of the mobile application, limited by the screen of the smartphone, is not very adapted for this.

In this area is a blank niche. Tour operators should pay more attention to the benefits of a mobile application for tourists - not only when selling the tour, but also during the holidays. In this case, the motivation to install and save the application of the tour operator will increase significantly.

2.2. Researching mobile sales policy international tour operator LLC Coral travel

Several applications of other travel agencies:

«ПУТЕВКИ ВСЕМ» 

Fig. 2.4 logo

For 60 days, the mobile application installed 5670 users, iOS-4962, Android-708. The total number of orders increased by 163%. After 2 months, the number of orders exceeded the number of orders from the site by 40% The browsing time of the search pages and last-minute tours increased by 4.4 times, the time spent in the application on average from 14 to 18 minutes.

«PEGAS TOURISTIK» 

Fig.2.5 logo

For 60 days, the mobile application installed 5670 users, iOS-12632, Android-5915. The total number of orders increased by 130%. After 2 months, the number of orders exceeded the number of orders from the site twice. The browsing time of the search pages and last minute tours increased 2.7 times; the average time spent in the application is from 12 to 14 minutes.

«ГОРЯЩИЕ ТУРЫ»

For 60 days, the mobile application has installed 23174 users, iOS-18460, Android 4714. The total number of orders increased by 260%. After 2 months, the number of orders exceeded the number of orders on the website. The time for

browsing the search pages and last-minute tours has increased 4 times; the time spent in the application is on average from 14 to 28 minutes.

The tour operator's mobile application in 2018 should perform such marketing functions as: sending advertising messages, strengthening the company's image, increasing brand loyalty, directly promoting sales, studying consumer demand and studying the target audience. Of all these marketing functions, the application "Coral Travel Last Minute Tours" has only the function of selling tours and then only on the territory of Russia. Coral Trevel tour operator needs to reconsider their attitude to mobile marketing, as they lose a lot of useful functions.

Because Coral Travel needs a new application with new technical and marketing functionality after the development of which will require its promotion in the market, here are a few moves:

Mobile applications will benefit from joint promotion with several brands with a similar target audience. During promotion, projects become equal partners, which are united by common advertising budgets or goals.

Often, developers first run an application for only one operating system, and then develop it for another. Having seen the “Launch soon” button, the user can forget about your application by the time of the presentation.

Try adding an entry to the waiting list for iOS on the landing page when launching an application, for example on Android. By the time the application is launched on iOS, you will have a lead database.

PR is one of the tools of the preliminary stage of promotion. Do research about who published articles about your competitors.

Then send to these publications and / or journalists a comparative analysis of your product and competitors, show your chips. You might be interested in editing and promoting it at an early stage of launching the application.

Collect at least five ratings for the rating of the updated version of the application. The cost of attracting a user is reduced when there are high marks in the application.

How to get these estimates? To launch each version with a rating of five stars, call your aunt. No, seriously: ask friends and family members to try the app and leave a review.

Maintain a good working relationship with your category manager on the AppStore and Google Play. And be sure to be interested in plans and technologies for the development of the platform. Thus, you will know which features and application chips you should pay attention to first and you will be able to get more chances to get into recommended ones.

If you start to move from scratch and with a minimum budget, do it creatively and contact everyone you know. Find out whether it is possible to work on a barter basis - you advertise the partners application, and they promote yours accordingly.

Most applications try to make the registration process as painless as possible. It is a bad idea. You will spend more attention than you get from the user. Better consider registration as a learning process. Do not dwell only on the explanation of the work of your product: immediately tell your customers how to use the application correctly.

Imagine that while the user is in your application, he is traveling a lot. Make this time as pleasant as possible from beginning to end.

Immediately do not chase the user, trying to return it to the application, and do not bomb the alerts. Instead, wait a few hours and remind him of his latest actions in the application — this will increase your chances of a return.

2.3. Analysis of the mobile sales technologies based on LBS system

Location Based Services (LBS) provide information and data to the user based on geographical position. These services are usually based on a communications network and one or more positioning technologies, combined with geographical information systems (GIS) which collect the information and present it to the end user. An LBS service is implemented within an infrastructure which must contain at least these five elements: a mobile device (e.g. a cell phone or PDA), a communications network (GSM, GPRS, UMTS), a positioning component (GPS

receiver), a service provider, and lastly a data provider. On an international level, both the ISO Technical Committee 211 and the Open Geospatial Consortium (OGC) issued standards and specifications regarding the LBS services. ISO/TC 211 handled the LBS standards in the ISO 19132 (Location based services possible standard), 19133 (Location based services tracking and navigation) and 19134 (Multi-modal location based services for routing and navigation) documents, while the OGC did the same with the OGC 05-016 (Open Location Services) specification. This work concerns the development of a client-server framework compliant with the OpenLS standard, and built entirely with Free and/or Open Source software. The LBS service is a tourist information application for the city of Cagliari in Sardinia. The client application obtains its position from its integrated GPS receiver and sends it to the LBS server. The server (written in the Python programming language) answers with information on interest points near the client. The system's architecture includes a cartography server (using the GeoServer open source software) for sending map data to the client. For the needs of this work, we implemented a variant of the Reverse Geocoding operation (part of the Location Utility service). Of all the request described in the standard, thus, the server only answers the Reverse Geocode requests.

Tourism is an economical sector in constant expansion, also due to technologies allowing the tourists to request specific information in real time, through the Internet, everywhere in the world. Italy, specifically, was the fifth most visited country in 2009, with 44 million tourist, confirming the trend of the previous years. These data underline the importance of the work that ICT (Information and Communication Technologies) perform in the service of tourists, through several services and applications they can use in the course of their travels. Among these services we have the Location Based Services (LBS), a category of services which are accessible using a mobile handset and based on the current geographic location of the mobile device. The geographic location of the device is determined by using a separate positioning service like, for example, the Global Positioning System (GPS). Given the user’s position it is thus possible, by using an

LBS, to locate points of touristic interest such as restaurants, shops, hotels, sites of historical-cultural interest; verify the weather and traffic conditions; book tickets for journey or cultural events; calculate routes; or obtain other touristic information. The first part of this article will present the common features of the LBS services and their different types; the second part will introduce an experimentation performed by the Geomatics research group of the University of Cagliari for the PRIN 2007 National Research Project "Studio e realizzazione di un servizio Location Based Services (LBS) basato sugli standard OGC (Open Geospatial Consortium) e/o ISO/TC 211 con software di tipo Free e Open Source (FOSS)" (Study and performed Location Based Service (LBS) based on OGC (Open Geospatial Consortium) and/or ISO/TC 211 standard with free and open source software). The LBS service prototype thus developed is able to provide touristic information, in real-time, about sites of historicalcultural-architectural interest in the city of Cagliari based on the user's position. The application was developed entirely with free and open source software.

An LBS service is implemented as part of an architecture including at least these five components: a mobile device (e. g. a smartphone or PDA), a communication network, a positioning component (e. g. a GPS receiver), a services and applications provider, and a data provider. (Fig. 1) The mobile device is used by the user for requesting data. It can be a cell phone, a PDA, a notebook PC, or even a car navigation unit. It can be placed in one of two categories: single-purpose and multi-purpose devices. The first includes devices which are built for a specific purpose and cannot achieve any other. The second includes devices that can also be used for purposes other than LBS, such as cell phones, PDAs etc. For transfer the user's requests from the mobile device to the service provider and the latter's response back to the former, the communication network is used.

Promising the possibility of avoiding price competition and the transition to a higher level - the competition between brands. Understand the central role of multi-media CRM and the need for it to be linked with offline marketing.

Fig 2.7 Lbs infrastructure

The network may be a Wireless Wide Area Network (WWAN) such as e. g. the GSM and UMTS networks, a Wireless Local Area Network (WLAN) such as IEEE 802.11 or a Wireless Personal Area Network (WPAN) such as Bluetooth. The positioning component is used for locating the mobile device. The user's position can be obtained through the mobile communications network (e. g. by cell triangulation), or through a GPS receiver. If the user's position is not automatically determined by a positioning component, it must be manually send by the user. His location will then be identified by his address (street name, street number, town), by his postal code or other. The services and applications provider is the component which offers the LBS application itself to the users. It is responsible of all the application data processing; it can own the database or it can use the DB of an external Data Provider. The types of data involved in an LBS application are both geographical data (maps, georeferenced satellite images, digital terrain models, etc.) and traditional databases (yellow pages, touristic information, weather forecasts, hotel and restaurant guides, etc.).

Currently on the market there are many categories of LBS different for features and functionality. The figure 2 shows a scheme of the LBS services. The navigation services are characterized by the presence of a mobile user, and are aimed at answering requests concerning indications of particular directions and/or routes, for route optimization, or to avoid delays. Among these services we may distinguish those called "In vehicle guidance" and "Pedestrian guidance". In the first case, the user moves on the vehicle, in the second case he moves on foot.

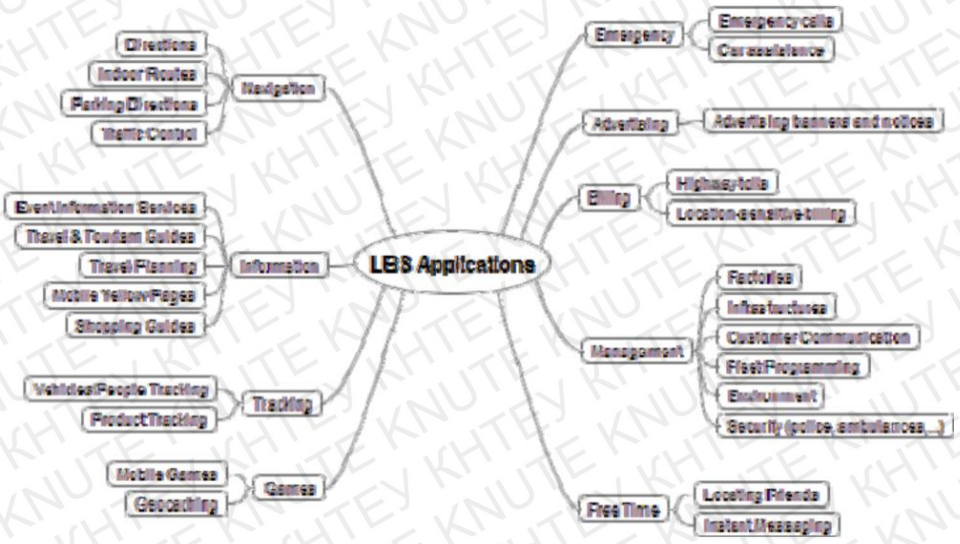

Fig 2.8: Types of LBS services

The general navigation services answer the question “where is that service or object more close to my position?”. The yellow page services, the tourist information services (map, search of museum or tourist site, etc) and general utility services as for example those providing local meteorological information or the traffic condition belong to this category. Emergency services are able to localize the citizens using them in case of accident, when lost at sea or mountain or in the case of old persons in difficulty. In this service types the most important features are the location and its precision. Regarding this, many states are imposing standards to the emergency services relatively to response time and service localization precisions (in the USA the E911 service has already issued its directives). The tracking and management services were born to manage paths and activities of moving persons or items (express courier, taxi service, freight). Also the relief activity in case of emergency is one of the possible application for this category. The billing services are applications used as charging methods on a geographic base like, for example, the payment of bus tickets in function of the effective route made by the user. At last we have, the community services, that ensure the contact of the user and their family environment and community. Examples of this kind of service may be: People finding (es. “find the friend”, “where is my son?”); locatn-based chat; location-based games.

The LBS standards At the international level both ISO/TC 211 and the Open Geospatial Consortium (OGC) issued guidance and standards for the LBS services. The ISO/TC 211 took interest in the LBS standard with the documents 19132 (Location based services possible standard), 19133 (Location based services tracking and navigation) and 19134 (Multimodal location based services for routing and navigation), while the OGC has dealt with the LBS by issuing the OpenLS1 standard. The OpenLS standard defines the base services, the ways to access to them, and the abstract data types that together compound the structure for an open service platform, the so-called GeoMobility Server. The server works as a application server, answering to the service request. It should be noted that the request can arrive to the GeoMobility Server from a mobile user, from an Internet user or from another application server. The base services defined in the 1.1 OpenLS specific are divided in five types: - Directory Service (Spatial Yellow Pages): this service provides to the members an Internet directory where to find one specific location, product or service (or the closest one). - Gateway Service: this is the interface between the GeoMobility Server and the Location Server from the Positioning Service. It is useful for requiring the current position with different modes (es. single or multiple terminal, periodic or immediate position). - Location Utility Service (Geocode / Reverse Geocode): this service carries out a "geocoding" operation, determining a geographic location given an address, name of place, or postal code. The service can determine one complete address (or postal code, or name of place) according to a geographical position.

• Example 1: give one address, find a position.

• Example 2: drive up to an address.

• Example 3: give one position, find the address.

• Example 4: "where am I?" - Presentation Service: this service converts the geographic information in a representation for displaying on the mobile terminal. An OpenLS application may call this service in order to get the map of the area of interest, with or without overlaying the streets geometry, points of interest, areas of interest, localization, position, and/or address.

• Example 1: The user wants to see where his house is on the map.

• Example 2: Planning a travel with his family, the user wants to see how to arrive from his home, in a particular city, to the hotel booked in another city. - Route Service: this service calculates a route for the user. The applicant has to indicate the start point (usually the position given by Gateway Service, but it can be also a specific position, for example their home for the travel planning) and the destination (any location, as for example a place whose he knows only the telephone number or address, or a place found by researching in a Directory Service). Optionally, the user can specify the intermediate points, the favorite route type (faster, shorter, lesser traffic, more panoramic, ecc), and the favorite transportation mode. The information returned may be textual (with the description of turns and distances) or geometric (displayable on the map). These services are just the OpenLS base services, it is always possible to implement additional services.

The service implemented by the Geomatics team of the University of Cagliari can simulate an info-touristic service on the Cagliari historic center sites of architectural-culturalhistorical interest. Infrastructure and applications consist of: - a mobile device with GPS receiver and Internet network access. In particular the S8000 Jet smartphone, produced and marketed by South Korean Samsung was chosen. - a client software for the mobile device - a LBS server - a WMS server - a DB for the developed LBS application data. In this system, the client communicates both with the LBS server (from which it receives the information concerning the closest point of interest) and with WMS service (to which it requests the map). The whole application was developed with Free and/or Open Source software and compliant to the OpenLS standard for LBS services. In particular, for the client software we used the gvSIG Mini open source software developed by Prodevelop, the LBS server was developed in Python language, and the WMS server was implemented in GeoServer. In the application we developed, the client requires to the server the informations concerning the closest point of interest. In OpenLS terms this means to make a ReverseGeocode2 operation. This

operation is structured in order to returne to the user a single information, for example the street address corresponding to the location of the mobile device. This information can be provided either in “structured form” (StructuredAddress element) or in “free form” (FreeFormAddress3 element); in the last case it is a string of text where needed tourist information can be include. Then, the server answers to the ReverseGeocodeRequest message.

Name	Mandatory?	Data Type	Description
Position	Y	Position ADT	The starting position (lat, long) for the Reverse Geocoder.
ReverseGeocodePreference	N	ReverseGeocodePreferenceType	Describes the preference for the response from the Reverse Geocoder Service: StreetAddress, IntersectionAddress, or PositionOfInterest (Place and/or PostalCode). If not specified, then the service will return the nearest StreetAddress.

Table 2.2 :OpenLS 1.2, par. 8.3.2.2 “Reverse Geocode service: Primary ReverseGeocodeRequest Parameters”

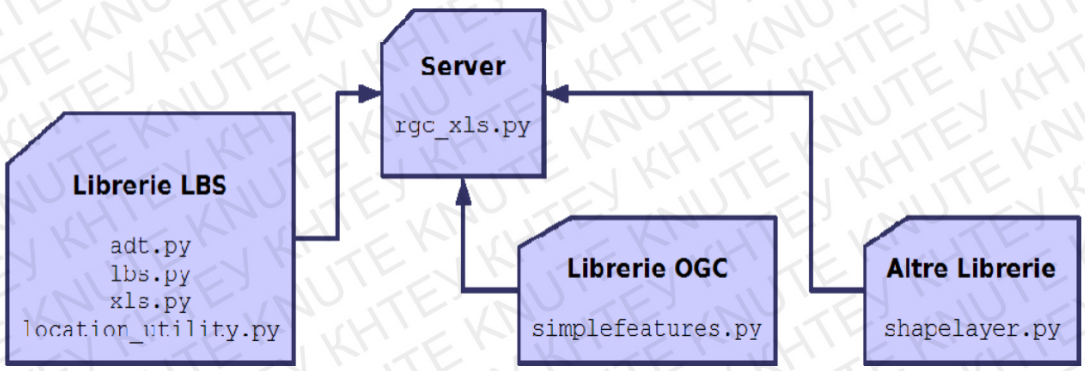

Fig 2.9: Scheme of the LBS server

The server was developed in the Python4 programming language, build on several modules those the research unit had developed for other projects. Among these, the shapelayer library was used for reading the database of the points of interest (ESRI Shapefile format), while simplefeatures implements part of the "Simple Features Specification5 " OGC standard, and also defines a Locator class which can execute simple spatial queries (proximity and inclusion). These two modules are independent from each other, and communicate by using the "Python Geo Interface6 " protocol. The adt.py module contains, among all those defined in the specification7 , the Abstract Data Types required for the ReverseGeocode operation. The lbs.py module contains classes and constants common to the entire LBS ribrari, for example the exception classes and the XML namespaces.

The xls.py module contains the classes for interpreting the request messages and building the response messages in XLS, the XML format used in OpenLS for client-server communications. Lastly, the location_utility.py module implements the Location Utility Service, for the part concerning the Reverse Geocoding operation. The server, named rgc_xls.py (from "Reverse GeoCode"), is a Web Application following the WSGI (Web Server Gateway Interface8) standard, which allows to use several compatible Python application servers. In this case we used the wsgiref (reference implementation of a WSGI server) module of the Python standard library. The program starts by loading into memory the points of interest as a Feature Collection, and constructing a Locator object (defined in simplefeatures.py) associated to them. Then it passes control to the WSGI server, which awaits for requests. When a ReverseGeocodeRequest is received, it is interpreted for extracting the GPS position. The Locator object selects from the Feature Collection the points of interest which are nearer than a predefined search radius to the given position. For each point of interest, a FreeFormAddress object is constructed and initialized with its attributes. The address objects are then encapsulated in the ReverseGeocodeResponse which is sent to the client.

The client software is based on the open source GIS gvSIG9 , developed by the Generalitat Valenciana with the contribution of the European Union. gvSIG is

written in the Java programming language, which allows it to run on different operating systems and even different device architectures, as long as they have a compatible Java Virtual Machine (JVM). It is distributed in two "official" versions: for PCs and for mobile devices with a JVM following the CDC10 (Connected Device Configuration) platform. There is also a "customized" version, named gvSIG Mini11 and developed by Prodevelop, for CLDC12 (Connected Limited Device Configuration) devices; most PDAs and smartphones are CLDC devices.

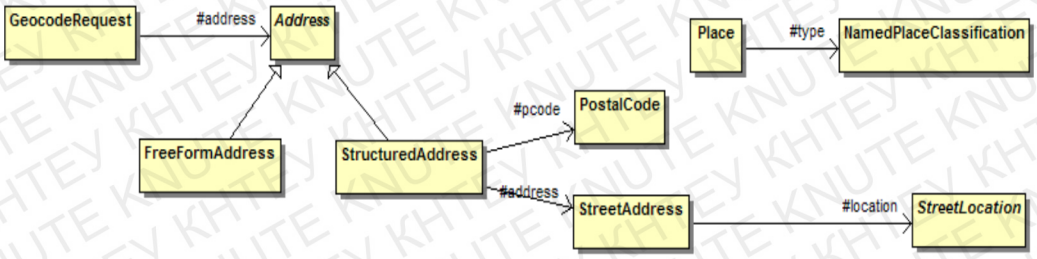

Fig 2.10: libOpenLS_mini: classes implementing the data types

Although the CDC devices are by definition more powerful than CLDC ones, they usually don't come with a pre-installed JVM, and there is no standard JVM for this platform: the choice is between J9 (by IBM) and PhoneME (open source) But these two JVMs are not fully compatible with each other; thus, software test on the CDC platform requires at least two test devices, one for each JVM. On the other hand, CLDC devices usually have a pre-installed JVM; also, most "smartphone" class devices (the kind of devices the prospective users would probably own) fall in this category. For these reasons, we decided to develop the client for the CLDC platform and to integrate it in gvSIG Mini. Since gvSIG Mini is developed for the Java ME (Micro Edition) platform, the client was written in the Java language. The development environment (IDE) was NetBeans by Sun (now Oracle), specifically the versions 6.7 and 6.8, since the gvSIG Mini sources and their dependencies are distributed with a pre-configured NetBeans project. The first step was to develop a Java ME library, independent from both gvSIG and the hardware platform, to manage the communication with the LBS server following

the OpenLS standard. This library was named libOpenLS_mini and may be divided in two parts: one implementing the OpenLS data types related to addresses and their representation, the other managing the XLS format and the communications with the server. The library is completed by some support classes, including the hierarchy of exceptions. Figures 3 and 4 show the UML diagrams containing the most important classes. The LBS functionalities were added to gvSIG by deriving some of the core classes, and placing the calls to libOpenLS_mini objects and functions inside the derived classes. This was done because, unlike both the PC and Mobile versions of gvSIG, gvSIG Mini was developed as a single "monolithic" application instead of having a "plug-in" based architecture – which would make implementing extensions easier, but also increase the complexity and memory requirements (which must be kept lower on a CLDC device). Despite this, some gvSIG Mini classes, not intended for derivation, kept some members "private" in order to prevent the derived classes from accessing them; it was thus necessary to modify these members by giving them "protected" access.

Database and Cartography

Cartography used in the Web Map Service is the 1:1000 scale cartography of the city of Cagliari in Shapefile format. Originally in the Roma40 national reference system, it was converted to geographic coordinates in the ETRF89 reference system. The associated database contains all the information deemed useful for an infotouristic LBS.

The LBS service developed by the research group of the University of Cagliari is currently available only for obtaining information on sites of touristic interest which a user encounters while moving through the city. The research group is currently implementing new functions; in particular, it is now studying the Route Service in order to calculate the route from the user's current location to a requested point of interest.

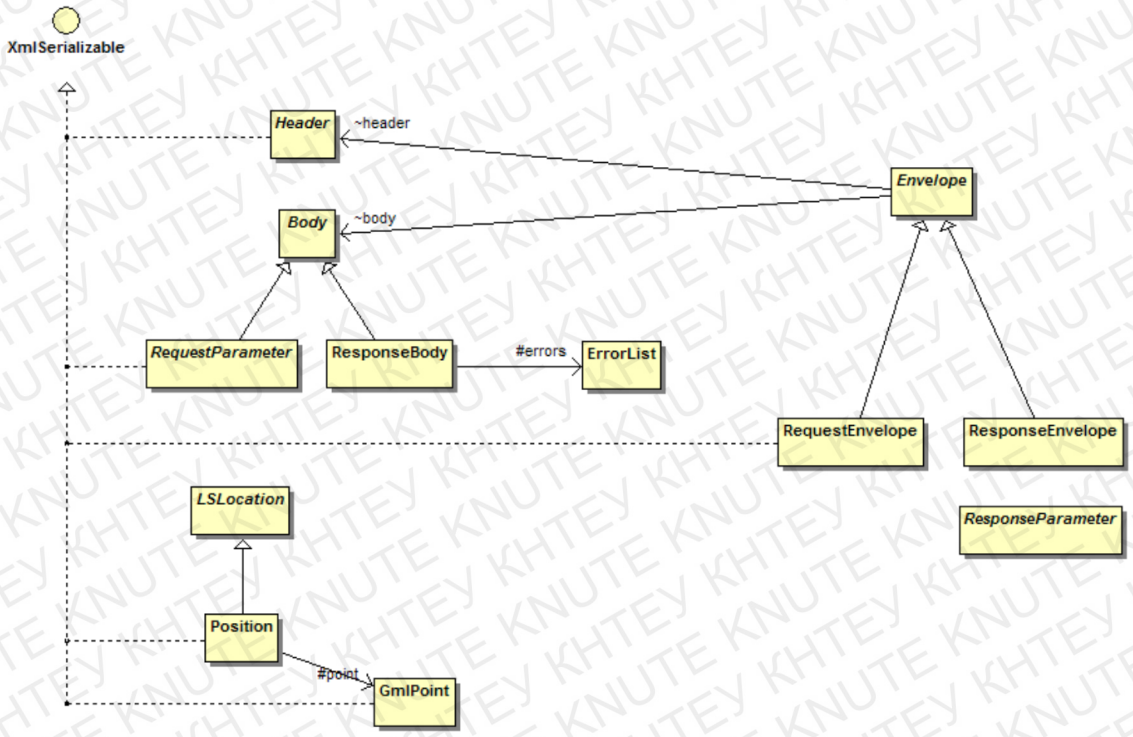

Fig 2.11: libOpenLS_mini: classes related to the XLS representation

In particular, the sites of historical-culturalarchitectural importance have been selected, and for each of them the following data were collected:

- Name
- Short description
- URL of a picture
- URL of a Web site of interest
- Address
- Visiting hours
- Ticket price

The map of the area of interest was added to the WMS service, in order to be used as a background layer in the client. The WMS server user was the open source GeoServer, running on the department's Web server; gvSIG mini was configured to use this data source. Figures 7, 8 and 7 show some moments of the use of the client. In particular, Figure 7 shows the client displaying the map obtained via WMS; Figure 8 a point of interest, nearer than the search radius; and Figure 7 the information window displayed when the user selects a point of interest.

Conclusion to part 2

Coral trevel need to develop new mobile app based on lbs.

Apps which integrate the geographical location of a mobile device (its co-ordinates) with other information on nearby services, so as to provide added value to users. Examples of LBS are mapping services, yellow pages, or navigation systems for vehicles.

Communication is carried out in real time through the device itself, which becomes a platform allowing you to view, for example, tourist information, the maximum capacity of a show that is being held in the area, how many establishments providing a particular service can be found in a particular street, or at what point along its route a particular bus finds itself.

PART 3.

WAYS TO IMPROVEMENT MOBILE TECHNOLOGIES IN TOURIST OPERATOR LLC CORAL TRAVEL.

3.1. Concept of the innovation

An application for a tour operator in 2018 should surpass its competitors, at least in functional terms.

- a list of documents for obtaining a visa. In the application, the tourist can mark what he has already collected from the list and what remains to follow the filing / receiving calendar. It can also be configured push-notifications - for example, do not forget to take a passport, order a taxi to the airport, etc.
- The application can be loaded with various documents: ticket, voucher, transfer confirmation, insurance, the program of the tour itself.
- "quick contact" options with a tour leader (for example, from China) and with a host guide.
- Feedback module. This module contains a functional assessment of certain services - excursions, restaurant service, etc. If a tour operator tries new product solutions, or wants

monitor the quality of work of employees and counterparties - then such feedback will be most valuable. And the tourist will show interest in his opinion from the operator.

-The app will show the closest available WI-FI access points around the world.
- Determination of nearby establishments and places with specific requirements (for example, Wi-Fi availability)
-Augmentedreality (augmented reality). For example, the application by geolocation determines around itself the marks of objects of the show (Kiev-Pechersk Lavra, Nicholas Church, etc.). When a smartphone camera is aimed at a specific object, the tourist immediately, without any QR codes, is given a description of the object in the desired language.

- The same principle can work and audio guides (in the right languages) or video guides AR.

"Geocaching is an extremely popular tourist attraction associated with the search for" treasures "hidden by other participants in the game. Most often caches are located in places that are of natural, historical, cultural, geographical interest. Therefore, this game is not only interesting, but also very informative. In geocaching, smartphones are actively used, through which participants learn the coordinates of bookmarks and receive encrypted hints.

-Geo-coupon. This powerful tool is able to attract the hottest customers to the office. Just imagine, a person downloads an application for himself, and he is offered to get a quick discount of 10% on his trip. On one condition. Scan this coupon can only be in the office. Cool? That is, any traveler understands that with a budget of a trip of 80,000 rubles, having received a 10% discount, he saves 8,000 rubles! And for this you need to come to the office, use the coupon right in the office, and voila - discount in your pocket! For a travel agency, this is a cool reception to attract a client to the office, who does not call the company, but comes. The rest depends on how the agency managers will work with these clients.

-The gallery will allow you to upload images from different travels of agency managers and their clients. Graphics sells well, especially in such niches as entertainment, recreation, travel. The application must include an image gallery, which can be broadcast directly from your Instagram account to the application or downloaded manually.

-Info tab helps to publish cool content in the application. Any traveler wants to get practical advice on rest at a particular resort, find out how you can save on excursions or in what places it is better to have lunch, etc. Such mega-useful content will appeal to users, so the application will definitely cause only positive emotions among customers. Also, the information tab will allow you to create a 2 or even 3-level travel catalog

-he form. This is a function for creating various forms of surveys, feedback. In the application for a travel agency, the function of the form can be used so that

customers send applications for the calculation of the tour through the application. You can set parameters such as hotel category, travel budget, how many adults and children are planning to travel, etc. Thus, the application will be received from the application directly to the e-mail travel agency. In this case, the application automates the work and provides another channel of communication with the business without the need for a call. The manager selects a tour according to the parameters specified by the client and calls or sends information by e-mail.

-Around us is a great feature for network agencies, if the company has several offices. They can be displayed in the application on the map, so that the client can choose where he can get faster and more conveniently. Also, this function can be used to show which organizations are located near the travel agency, for example, banks and restaurants.

-News. The application allows you to automatically broadcast tourism news from the Internet to certain predetermined keywords. And it gives customers the opportunity to be aware of events, and the travel agency - to create useful content, just by setting up this tab correctly.

Tourists who travel to, say, Turkey from a certain tour operator to a particular hotel are also a closed community for which a similar set of functionality can be translated. In such an application, the tourist should be able to view the documents uploaded there for the tour, receive push-notifications (departure reminders, etc.).

The tour operator can also customize a narrower distribution, for example, by hotel or by city of hotel location. Among those who downloaded the application, groups are created: conditionally, a hotel group, and for example a Belek group. In accordance with the purchased tour, the user gets access to blocks of information relevant to him. He will be given a description of his hotel, a list of excursions with prices and the ability to order and pay for them in a few clicks, the current schedule of all restaurants, bars, water slides of the hotel, etc. If necessary, you can set up automatic reminders (which will be triggered offline) - about the

mini-disco coming in an hour on the main stage or about the beginning of the dinner.

About the closing of the mini-club in half an hour and the need to take the children out of there, or that water slides joined the pool. And so - for an unlimited number of tours.

The option of selling tours through the mobile application itself will eventually have to be reformed in the direction of the mechanism of personalized offers to the tourist. Based on the same analytics that the tour operator has already collected, he will be able to make a very precise offer. This will be an address treatment, taking into account the accumulated knowledge of a particular user, with personal conditions and personal discount. Without spamming and faceless open source software. For the tourist, such a proposal will be a manifestation of care and friendly participation. And it will be true, because in order to learn how to make such relevant offers, the tour operator will have to put some effort.

This approach is customer centricity, when we put our client in the center of the infrastructure, and deploy the service around and for him. This is how big IT players work today.

Such an application should be a very effective loyalty tool, tying the tourist to the brand. After all, it is very likely that he will buy the next tour from the tour operator whose application he has successfully used. And here loyalty to the service merges with loyalty to the gadget. This is actively used in other areas. For example, banks, too, used to be held only in public, and now we see a boom in mobile banking.

All have long wanted to be friends not with a personal manager, but with a loyal application that takes care of everything. We note that the banking sector, like the entertainment industry, is in the thick of the digitalization funnel, which means we can confidently predict that similar changes will also come in tourism - which also applies to the entertainment industry (if we talk about tourism as leisure ", separating it from the more global" travel ").

Another possible scope of the concept is cruise tourism. On the boat, we always have a classic closed community in the person of a group of passengers, ship crew, animators, etc. Plus, it's on a cruise that the tourist is motivated to book additional services - at least more than at the hotel. In such an application, ship deposit can be easily implemented. Using this application, cruise tourists can receive reminders about the program's events, keep in touch with the animators at the kids club, or even directly receive tasks for interactive contests, and can communicate with each other and be friends after the end of the cruise, maintaining communication.

Another reason not to delete the application after the end of the tour is the cloud storage of photos taken by tourists or photographers during the cruise (the cruise company can upload photos to the application "by air"). And of course, the operator will be able to notify the tourist about the best deals and conduct promotions.

3.2. The ways to engage this concept for touroperator

And how does the tour operator manage it all? Who uploads the database of tourists, their tickets, contracts, excursion programs for each group in each country for each tour, etc., into the application? Who updates them - if suddenly the program or the price has changed?

This application will have an administrative part. Now there are several options for working with her.

As a rule, tour operator companies do not have a free resource to manage such an application, to work with downloading and updating relevant information about the tour in another, completely new, channel. This is natural - after all, this functionality, in general, does not apply to the main business of a tour operator.

In addition to configuring the desired application to the customer with a unique functionality, more and all content management. Of course, for a reasonable fee, it pays for the employee. Or employees - depending on the scale of the task. Immediately, I note that since our solution is boxed, then by purchasing

one license, the tour operator gets the opportunity to conduct an unlimited number of tours in one application at once - with different programs, guides, service packs, etc.

Understanding the natural necessity of piloting the solution, it will be possible today to offer the Coral Travel tour operator to try this application on, say, one tour, on one group of tourists. The application will be configured according to the agreements, all the necessary data will be downloaded. There will be divided access levels for different roles (tourist, guide, manager, manager, etc.). Set up notifications and jointly test everything that was described above. If everything is fine, the tour operator can try to “arrange” the tour independently. We will train specialists and will advise as needed.

If the tour operator for some internal reasons does not want or cannot transfer this data to third parties - you can configure and integrate the administrative part of the application on its server. And further provide full support for the decision.

The result of such integration in all cases will be the synchronization and automation of business processes serving tourists. When the lion's share of content will be transferred from the tour operator system to the servers of this application, and in the opposite direction the stream of statistical data, bookings, and new leads will be transmitted.

Development of applications for Android (Android, iOS, Windows Phone), which provide the best quality of work with content. But the development of "native" applications is labor-intensive - for each operating system you need to make a separate application with the need for its further support. An intermediate solution for mobile devices is to develop a hybrid application based on HTML5 technology. At the same time, the mobile version of the site is “wrapped” in the shell of the native mobile application.

In general, it is difficult to calculate the costs: the cost of developing the application itself is only the tip of the iceberg, a maximum of 30%(600$) of all investments in its promotion. Fixed assets are invested in marketing, and since this

direction is working on the development of the entire company, it is almost impossible to calculate what percentage of the budget is allocated separately for an application. We get a lot of installations from the so-called “organics” - from Google and Apple stores: customers find our application, because they already know the Coraltravel brand.

Attracting customers to mobile apps is a costly experience. The fact is that for all the mobile application traffic, all those who feel like are competing in completely different businesses: from games and dating services to ordering a taxi and searching and booking tours. All these businesses have different margins, the frequency of purchases, the average bill, budgets and, as a result, the different costs of attracting an audience, so the threshold for entering the world of mobile applications is quite high.

Traffic is essentially controlled by only three companies: Facebook, Google, and Russian Mail.ru.

Now every vital need has its own application - to search for restaurants, order food, call a taxi, entertainments. And the CoralTravel application has to be jostling with everyone on the same meadow. This requires that the client after installation does not forget about the service in the next month. And the only way to attract his attention is to make a high-quality product with convenient functionality. The better and more unique your product is, the more convenient it is for your customers, the more chances you have to stand out against the general background.

Mobile applications are a game in the long run, but I am sure that the costs will be justified sooner or later. We work for the future, because the volume of purchases through mobile applications is growing significantly faster than sales through other channels. In addition, the mobile application is a tool for maintaining customer loyalty and has a higher retention rate than other channels. I think that by the next summer season, the share of sales through the mobile application will exceed 50% of the total.

3.3 Evaluation of the effectiveness of innovation

When traveling, we value comfort and convenience the most. That is why more often use the services of travel agencies, and do not plan to travel on their own. It's so nice when everything is thought out for you, you can relax and save a lot of time.

Travel agency will take care of everything you need:

the selection of the tour, hotel reservation, the solution of delivery issues and so on. And with the help of a mobile application, the purchase of a travel package can be even easier and more convenient.

The travel agency can develop a mobile application that allows customers to: independently choose a tour on a wide range of parameters and choose the most convenient option to purchase a travel package

explore resorts and countries for their travel routes, choose a destination for recreation in accordance with the season and personal preferences

use additional travel services, such as insurance, travel SIM cards, ordering a taxi, guarding documents and baggage, booking VIP rooms, telephone interpreter assistance, gift certificates, etc.

compare prices and choose the most profitable tour

see descriptions of all hotels, tourists reviews, photos

specify the hotel location on the map and book your favorite tour

get acquainted with new promotions and order them in the nearest office of the network (the application can be configured to find the address of the nearest agency automatically, using the geolocation function)

use the app as a tour guide telling about dozens of interesting places worth visiting

use the app as a directory, find restaurants, hotels, shops and local attractions

lan your trip, find new fun and new places to visit.

Monetization is possible, for example, by ordering additional services from the application. This can be an individual transfer to shopping, optional excursions or hotel services, concierge service, etc. This is a downloadable list of shops, restaurants, where discounts and advertising are provided for the tourist, and very

clearly targeted. And many more other sources. I note that the main thing here is to create an infrastructure that is interesting and useful for the tourist, the one that he will use.

Such an application will maximally facilitate the work of the hotel guide, reduce the cost of the tour operator on the organization of sales of additional services (the same tours). And at the same time will allow logistics and guides to be sure that their tourist is notified about the change of departure time or about the arrival of the bus on a tour.

The feedback module allows the Tourist to be able to evaluate all the components of the tour. This is an important business tool for the tour operator itself. So, if the food at the hotel, according to 80% of the tourists' reviews, was rated “below average”, then this is probably an additional trump card in negotiations with the hotel — about lowering the price or improving the quality of service. If the work of the host company is assessed in a certain way, this is also a signal to the tour operator. I would stress that tourists in such an application have much more practical value than all “reviews of reviews in social networks” - after all, this is the reaction of specific people to short-term problems, in one click.

The reliability of such reviews is much higher than the posts in social networks (where you can make likes), and therefore the statistics will be more accurate. This is a great opportunity for good analytics and for private tasks - such as staff evaluation.

The very existence of such feedback should play to increase the satisfaction of the tourist; putting three stars on the spot is easier than writing a long post on Tophotels. We must also understand that, in principle, people trust mobile devices more.

Conclusion to part 3

This concept is superior to the application “Coral Travel Hot Tours” in all characteristics, there is also a new actual functionality for 2018, perhaps even a little ahead of its time, but we see analogs of these technologies in other areas of

business and they work. So, in terms of the marketing component, this application is better - as it helps the tour operator to create a model of a specific buyer by collecting information about him and selling him the tour that he really will be interesting and suitable.

Push notifications with special offers through the prism of information received about the user will significantly increase the likelihood of unplanned shopping tours. A functional will help the user to feel confident in unfamiliar places and not worry about the fact that he forgot something or did not.

CONCLUSION

All companies including those in the tourism realize that today is a necessity to realize some form of presence on mobile devices.Mobile applications and mobile advertising are definitely a right way of achieving that kind of presence.For successful business of hotel and tourism companies in the increasingly demanding tourist market, it is necessary to consider new ways of promotional activ ities and new forms of communication with guests.The presence of mobile devices and communications with guests is just another form of how will hotel company better approach to the target group on the tourist market.If the hotels want to get closer to its guests, they need to constantly monitor trends in an increasingly demanding and rapidly growing tourism market and to adapt to the development of new technologies in order to achieve competitiveness.Those hotels that have recognized the importance of mobile advertising will certainly record higher business result. With over a billion users of smart phone mobile advertising will play an increasing role and importance.Due to the huge increase in sales of the devices, which are gradually becoming a replacement for desktop and notebook computers, advertisers are finding new places to promote their services and products.The future of advertising and marketing activities is certainly on mobile devices, which confirms the growing number of mobile marketing campaigns.Furthermore, it is necessary to recognizethe importance of social networks and their role in communicating with the guest in orderto obtain real-time feedback from him.There are other ways of advertising via mobile devices (mobile video)that would mark the year ahead.Although this is only the beginning of the era of mobile advertising, will be interesting to see over the next few years, how quickly will develop mobile marketing due to the fact that sales of these devices skyrocket.

With 20 years of professional experience in the field of outbound tourism, Coral Travel offers only high-quality travel products on the Ukrainian tourism market. But it does not have an official mobile application, which has a bad effect on the overall assessment of this tour operator, because this work was written in

which we tried to describe the concept of an optimal mobile application for 2018. To consolidate and further increase the popularity of the tour operator in the general market, it is necessary to more actively try to use foreign technologies. The main proposals for the introduction of innovations that will help the Coral Travel tour operator reach a new level of mobile marketing are: Creating a new mobile application built on LBS systems and with other relevant original functionality, such an application will need a staff of employees for ongoing support of the application, users, and people themselves (for a start) who will create tours for specific people based on assembled analytics, such tours will be sold much better, and user loyalty to this tour operator will grow.

The proposed measures will contribute not only to the increase of the indicators production and operational program of the tour operator Coral Travel, but also, respectively, its profit (by ~ 28.5%) in the first year, and also contribute to the formation the business image of the enterprise-innovator in the market of Ukraine and the world as a whole.

Digital information technologies have had, and will haveincreasing profound impacts on the tourism industry.

Travel will continue to be one of the most popular online interests to consumers.

Access to the Internet and the mobile communication devices will increase the number of electronic connections between customers and the tourism industry.

These new technologies will increase the environment for creating relationships, allowing customers to access information more efficiently, conducting transactions more easily, and more closely interact electronically with businesses and suppliers.

The growing up of the digital generations changing the demographic profile and behaviorsof Internet users, will result in Internet will be considered the primary source for travel information and travel experiences support.

Purchase processes will move into the mobile devices and made over the Internet Conversation between travellers of sharing experiences will grow through network technologies.

Experience and emotion oriented communication will grow in importance as emotionally intelligent interfaces are developed, incorporating emotional psychological need context to provide supportive interactions.

User generated media such as blogging, podcasting, livestreaming, pictures sharing, and social networking are expected to play an even more important role in supporting travel planning activities as well as in the construction of memories and extended experiences in the postconsumption phase of travel. It will be an increased need to integrate such applications on tourism and travel websites and apps.

Social networking and virtual world will continue to merge, offering engaging opportunities for communication, sharing and online experiences.

There will be an increased demand of systems that support lifestyle during trips, and will require the same level of technology use on the road as they do at home. Wireless, wearable, global, integrated and smart system solutions.

New technologies are being developed in an increasing speed, that will have a significant impact on tourism. These will disrupt existing value chains in tourism, and lead to the emergence of new players in the tourism industry, and significantly influence consumer experiences.

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