# Mobile Applications for Cultural and Historical Places

Tihomir Stefanov, Milena Stefanova

St Cyril and St Methodius University of Veliko Tarnovo, Faculty of Mathematics and Informatics, 3 Arch. G. Kozarev Str., 5000 Veliko Tarnovo, Bulgaria
`tiho2000@gmail.com,m.stefanova@uni-vt.bg`

**Abstract.** A review of free applications of smartphones working under the operation system of Android is made in the paper. The applications present users information about historical and cultural places of interest at travelling. There are three main groups of applications subject of discussion in the paper – world, national and regional. Their abilities, positive and negative characteristics are compares and described. A conclusion can be made that there is a necessity of new application that presents tourists detailed information about the Old capital of Bulgaria.

**Keywords:** Historical and Cultural Places of Interest, Smartphone, Mobile Applications for Android.

## 1    Introduction

According to the research of Morgan Stanley and IDC (International Data Corporation), in 2012 the sales of smartphones exceeded the total number of sold Desktops and Notebook- systems [1]. For the last two years the market share of the "smart" phones has reached higher and higher levels, the traffic in internet which they generate has been going up too. The dominant one on the market is Android operation system which is installed on over 70 % of the devices worldwide [2].

Mobile and smart phones are devices appropriate for multi-use. With these devices, users are able to profit from varied applications as well as to store and manipulate data. More often consumers use their mobile devices not only for business but also for personal operations. The technology with inbuilt in the devices GPS- (Global Positioning System) chip allows them to be also used in navigation at travelling.

Popular programs for navigation are "iGO", "Garmin Navigator", "TomTom Navigator". They offer not only detailed maps and routs at travelling but also special POI- (Points Of Interest) objects on the road. These objects become more and more important for the users and that challenges the creators of the programs for navigation to allow the users to add or mark such objects on their own. On the other hand those engaged in tourist business are interested in popularizing their activity marking their places on the map as POI-places. Such an object is presented only by its coordinates – geographical longitude and latitude which does not give additional information to the users such as working time, history, pictures and curious facts about a tourist or historical place of interest.

The transition from Desktop-systems to mobile version of the applications for navigation of Google added new ways of more attractive presentation of the objects with additional and detailed information about them. Under the influence of these possibilities of Google Maps, a lot of applications have become more and more actual. These applications help travelers and they are accessible in the site for application of Android - Google Play (https://play.google.com/store). All of them offer users much more information about the tourist and historical places of interest and use the abilities of Google Maps for navigation.

We discuss the advantages and disadvantages of some of the most interesting free mobile applications for trips and navigation in the following part.

## 2      Comparison of Mobile Applications for Travel and Local Content

The subject of our research is only the free applications available in Google Play since they are widely accessible to users and show the extent of popularity and advertising the historical and tourist places. The very operation system Android is free and this is one of the reasons for its wide spreading.

### 2.1      World Travel Mobile Applications

**Google Maps**
Google Maps for Android can help when user needs directions to destination, the closest good place for a bite to eat, or just a sense of where he or she is [6]. Google Maps for Android with Navigation have:

- Detailed maps with 3D buildings;
- Voice guided turn-by-turn GPS navigation;
- Driving, public transit, biking, and walking directions;
- Live traffic information to avoid congestion;
- Local search and business reviews;
- Google Maps Street View;
- Indoor maps for select airports, hotels, retail stores, and more [6].

A disadvantage of the application, compared to the classical navigation programs like "iGO" and "TomTom", for example, is that it requires an Internet access of the user. If the program is to work in off-line mode it is necessary to mark the region on the map with radius not more than 5-7 kilometers and to save the region into the memory of the smartphone. This limitation makes the usage of Google Maps in roaming mode is not preferable.

**World Travel Guide by Triposo**
It is one of the best world free applications. At the initial starting the application defines the location and according to it downloads additional information for the cor-

responding country. It gives a short description of the country, currency, economic standard and purchasing power. (In this case for Bulgaria - 45MB). The information offered is based on the English language version of wikipedia.org. The application offers a comfortable and beautiful interface. Information is available for atmospheric and local time [11]. The other useful extra is the possibility to keep a personal diary with impressions and pictures of the visited places of interest. The application offers a dictionary and phrasebook from English to Bulgarian language [11].

**Geolover - Travel Guide**

Geolover is a free easy to use Worldwide Travel Guide. Content are built using large community driven platforms like Wikipedia, Wiktravel, Openstreetmap, Geonames, YouTube, Flickr, Foursquare [9].



**Fig. 1.**

Key features of Geolover Travel Guide [9] are:

- Access more than 1000 cities and 60,000 tourist locations around the world.
- Most location has tips, videos and photos.
- Content is dynamic and growing fast.
- It is location based. Just tap on nearby and app will return closest places to users.
- It is possible just download content to SD card and enjoy offline usage.
- App size is tiny only 200 Kb so it won't take too much space on mobile device.
- Search over 250,000 hotels and find the best price.
- Trip planning. Find and add places to user' bookmark that he or she plans to visit [9].

The application offers information about a lot of countries and cities. Bulgaria is included with two its largest cities – Sofia and Plovdiv. The places of interest in them are those about which there is information in the English version of Wikipedia.

The application does not maintain the Cyrillic alphabet correctly (Fig. 1).

### Roving Museum

This application is worked out by the order of European Union and especially for the Southeastern European region. It has comfortable and beautiful multi-touch interface [5]. Actualisations in version 1.3 of the application are:

- Stability optimization;
- Problem with map not loading on some devices fixed;
- Login problems resolved;
- User interface improvements;
- "Zoom" option added to gallery [5].

## 2.2    National Mobile Applications for Bulgaria

### Mobile Bulgaria

Mobile Bulgaria presents a large part of the places of interest of Bulgaria – the 100th national sites, national nature parks, museums monasteries, caves, waterfalls, fortresses, mounts, lakes. Te application was worked out by Leosoft Company [8]. Its last actualization was on 29.12.2012.

It offers a comfortable interface, in compliance with multi-touch abilities of the modern smartphones. The main menu consists of large and comfortable icons which give access to: "Around me", "Categories", "Search", and "Information". The first section "Around me" uses the options of the inbuilt GPS module of the smartphone for localization of the user. A list of the closest historic and tourist places of interest is displayed. If the GPS module is switched off or banned then the application uses the options of the GSM network for localization of the user. A list of the closest historic and tourist places of interest is displayed. They are sorted according to the distance from the present location of the user.

In the section "Categories" the following sections are available: 100 national tourist sites; Antique buildings; Ruins; Waterfalls, Lakes, Dams; Ethnographic Complexes, Protected lands; Reserves; Fortresses; Castles; Museums and house museums; Monuments; Caves; Mountains and peaks; Rock phenomena and pyramids; Huts, Lodges; Churches, Temples; Others.

A quick access to a desired object is offered by "Search" section.

Each object is presented by pictures and thorough information. Information about the present meteorological conditions is displayed in real time. The navigator is Google Maps. The program gives an option to share in social networks or by e-mail the site being visited at the moment.

The application does not give information about the working time of the museums which is a considerable disadvantage for us.

**Bulgaria - A Tourists Guide**

A Top Quality Guide to Bulgaria including up-to-date maps, places of interest, useful phrases, translator and much more, a must for every traveler [4]. The application is offered only in English version. It contains short information about the history, traditions and the geographical places of interest of our country. The news through RSS (Really Simple Syndication) is accessible. The application makes a reference to the inbuilt browser for loading more news from the site www.novinite.com.

The other extra is the inbuilt base phrasal dictionary and phrase dictionary.

Unpleasant and uncomfortable interface. A map of Bulgaria through Google Maps is accessible but there are no routs and navigation offered [4].

**Bulgaria Tourist Sites**

The application shows the 100th Bulgarian national tourist sites on the map. For every site there is a description and photos [3]. Stylish and clean application. A very well arranged list of regions and choosing a site you receive information about it. All sites are presented with working time and exact location on Google Maps. The application has not been updated since 19$^{th}$ of September 2010. Unfortunately not all the pictures of the sites are accessible in the application which is perhaps due to the non-working site of its author.

**The 100$^{th}$ national tourist sites M-tel**

Another sponsored application. It gives detailed information about the 100$^{th}$ National tourist sites of Bulgaria. They are sorted by administrative regions of the country. Each site is presented with a lot of pictures, detail information and working time. Contact telephones are given. Navigation to each site is possible through Google Maps. A wonderful application with regular updates and maintenance but it is offered only with interface in Bulgarian language [12].

**2.3    National Mobile Application for Germany**

**TOP 100 - Germany's sights**

TOP 100 – the first German mobile travel guide by visitors for visitors. The (Ger-man National Tourist Board) GNTB's "Germany's Top 100" application has been available since 2012 in English and German for Apple and Android devices. More than 5,500 visitors from all over the world have recently submitted their most favorite places in Germany on the www.germany.travel website, resulting in a ranking of the TOP 100 attractions in Germany. The app gives people planning to visit Germany access to a wealth of information before their trip, including ideas for possible excursions and places to visit. It provides a brief description of each attraction, along with photos and information on opening times, admission prices and travel directions. The Android app also offers mobile discount vouchers and the latest news from Germany [15].

The wide geographical spread of the 100 selected tourist highlights confirms that all of Germany's federal states have attractive places to visit from the perspective of international travelers. The UNESCO World Heritage sites are particularly popular, with 19 of the country's 37 sites featuring on the Top 100 list [15].

## 2.4 Local Mobile Applications for Cities and Events

### Sofia, Bulgaria – Free Travel Guide

MobileReference Travel Guides provide detailed, practical information about attractions, transport, landmark, cultural venue, accommodation, dining, history and much more. They are indexed alphabetically and by category, making it easier to access individual articles. Attractions can be viewed on an offline GPS map along with users' current location so that they can easily find near attractions as they explore the city [7].

This fully-functional guide is absolutely free. The full version ($4.99) expands articles with more information about attractions, geography and history [7].

Novelties in this application are:

- Tourist information and content update;
- Improved map functionality (with Points of Interest filter and directional compass);
- New restaurant listings;
- Improved usage of different screen sizes and rotations;
- New and improved user-friendly design [7].

### Burgas Tourist Guide

The application is worked out by the Municipality of Burgas and successfully presents to the travelers current news about the town, meteorological forecast, a list of hotels and establishments in the municipality with current addresses and telephones [14], as well as historical and geographical places of interests of the region. They are presented with a picture and short text information. The working time of the museums is missing again.

### Visit Burgas

Another application worked out by an order of the Municipality of Burgas [10].

The application offers maintenance in three languages and exceptionally beautiful interface. The categories of the main screen are places of Interest, My Burgas, Entertainment and Events. The last section offers information of the cultural and historical program of the Municipality of Burgas for the period till 2019. There is an option of searching in it as well as in the whole application. Each site is presented with several pictures. The working time of the museums is missing again.

There is an option of creating Favourite Sites and places of interest. Google Maps is used for navigation.

### Night of Museums and Galleries

As it could be seen by its name this application is worked out especially for the organized in September 2011 in Plovdiv "Night in the Museum" and provides the whole information about that event [13].

Initially the users choose between Bulgarian and English interface. After that they can receive short information about the sites participating in "Night in the Museum" and plan their unforgettable night tour. The map is static and includes only the presented sites in the town of Plovdiv. There is no navigation to them.

**Table 1.** Free mobile applications for Bulgarian local places and content

| Indices | Mobile applications | | | |
| --- | --- | --- | --- | --- |
| | Sofia, Bulgaria – Free Travel Guide | Burgas Tourist Guide | Visit Burgas | Night of Museums and Galleries |
| Author/s | MobileReference® | NKsoftware.net | Studioweb.bg | Studio-geometria.eu |
| Icon | | | | |
| Detailed | - | Yes | Yes | - |
| News RSS channel | - | Yes | Only events | - |
| Possibility to additional search | Yes | Yes | Yes | - |
| Navigation section | Yes | Yes | Yes | - |
| Graphic images of the objects | Minimum | Minimum | Maximum | Minimum |
| Foreign languages support | Only EN | BG, EN | BG, EN, RU | BG, EN |
| Maintenance and Update | Yes | Yes | Yes | - |
| Presence of a paid version | Yes | - | - | - |

## 3　Conclusion

This paper creates an overview of some popular free versions of mobile applications. Their advantages and disadvantages have been summed up.

Classical programs for navigation such as "iGO" and "TomTom" are specialized to lead the travelers to the place and site wanted but not to get them acquainted with the geographical and historical characteristics. This is one of the reasons more and more applications assisting travelling people to be created.

Searching in Google Play with various key words such as travel, travel guide, museum, history, hundreds of free applications are available. All of them are created to facilitate travelling people all over the world by presenting not only GPS coordinates but also detail information about the tourist site. The availability of multimedia for the historical places of interest improves the experience of the users and the option of sharing in the social networks makes the friends of the traveler also involved in the experience. After the comparative analyses a conclusion could be drawn that for the region of Veliko Tarnovo the information offered is not so actual and attractive. There is an urgent need of working out of a new application similar to the ones of Burgas Municipality. And including all the cultural and historic places of interest of the Old capital can be the objective of the application.

# References

1. http://tech.fortune.cnn.com/2011/02/07/idc-smartphone-shipment-numbers-passed-pc-in-q4-2010/
2. http://www.gartner.com/newsroom/id/2237315
3. https://play.google.com/store/apps/details?id=cc.co.radenkov.sites&feature=search_result