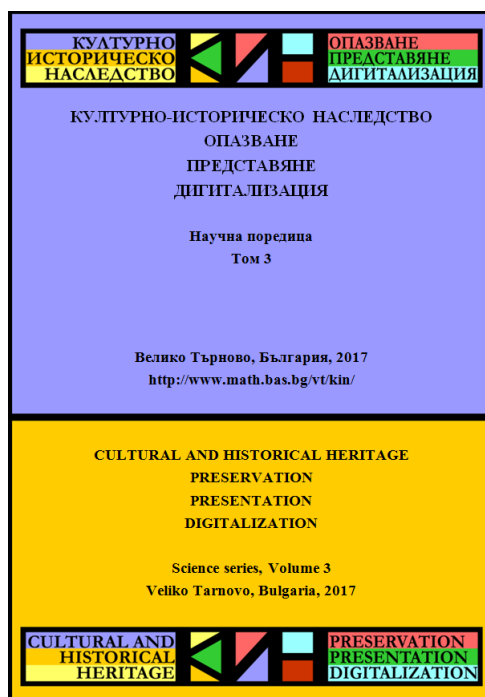


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GUIDE&HAND APPLICATIONS FOR BULGARIAN CULTURAL HERITAGE

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ПРИЛОЖЕНИЯ НА СИСТЕМАТА GUIDE&HAND ЗА БЪЛГАРСКО КУЛТУРНО НАСЛЕДСТВО

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Abstract: The paper presents integration of digital libraries and mobile applications for Bulgarian cultural heritage: the multimedia environments (Bulgarian Iconographical Digital Library, the BellKnow multimedia archive on bells and the web site of International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage) and the mobile applications (GUIDE@HAND Veliko Tarnovo, BOOK@HAND BIDL, INFO@HAND DIPP, BOOK@HAND Bells).

Keywords: digital libraries, mobile applications, Bulgarian cultural heritage, Guide@Hand.

Резюме: Докладът представя интегрирането на цифрови библиотеки и мобилни приложения за българско културно наследство: мултимедийните среди (Виртуална енциклопедия на българската иконография,

мултимедийния архив за камбани *BellKnow* и уеб сайта на Международната конференция за цифрово представяне и опазване на културно и научно наследство) и мобилните приложения (*GUIDE@HAND* Велико Търново, *BOOK@HAND BIDL*, *INFO@HAND DIPP*, *BOOK@HAND Bells*).

Ключови думи: цифрови библиотеки, мобилни приложения, българско културно наследство, *Guide@Hand*.

1. Introduction

Institute of Mathematics and Informatics at Bulgarian Academy of Sciences (IMI-BAS) and Institute for Computer Science and Control of Hungarian Academy of Sciences (MTA SZTAKI) have an intensive co-operation for many decades as academic institutions. A joint IMI-BAS – MTA SZTAKI bilateral academic cooperation project entitled “Development of Software Systems for Multimedia and Language Technologies” was performed within the integration framework. Some applications were created within the *GUIDE@HAND* family as a result of the cooperation. Some of the results are also based on the bilateral academic research project “Digital libraries implementation in culture and education” between IMI-BAS and Latvia Culture College at Latvian Academy of Culture (LCC-LAC).

The Bulgarian Iconographical Digital Library (*BIDL*, available at <http://bidl.math.bas.bg>) was developed by the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences (IMI BAS). The development started more than ten years ago during the national project “Digital Libraries with Multimedia Content and its Application in Bulgarian Cultural Heritage” of the Institute of Mathematics and Informatics – Bulgarian Academy of Sciences [1] and was supported by several international and national projects. A complete description of the rich *BIDL* functionality is included in [2, 3, 4, 5, 6].

The Bulgarian bells web-based archive (*BellKnow* archive) was developed by the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences (IMI-BAS) within the framework of the project “Research and Identification of Valuable Bells of the Historic and Culture Heritage of Bulgaria and Development of Audio and Video Archive with Advanced Technologies” (*BELL*) and project “Multimedia Fund *BellKnow*”. Bulgarian bells are ana-

lysed, documented, selected and exhibited (over 3 000 digital resources - photos, video clips, audio recordings, diagrams etc.) in a Web-based environment [7, 8, 9].

The eLearning Department of MTA SZTAKI started mobile-based software development in 2005. As a result of this activity, a new mobile application family was created with the brand name of GUIDE@HAND. It consists of more than 50 multilingual offline applications running on smart phones and tablets for providing thematic services [10, 11]. The applications are available on the most widely used mobile platforms (iOS and Android). A permission-based content management system supports the management and publishing of the multimedia contents of the applications. The application offers a variety of services to smart mobile device owners on iOS and Android platforms.

2. Integration of Digital Libraries for Bulgarian Cultural Heritage with Guide@Hand Application Family

The integration opened new ways to present the information of IMI-BAS digitals libraries for cultural and scientific heritage through the GUIDE@HAND mobile application. QR codes are used in Bulgarian Iconographical Digital Library (BIDL) – GUIDE@HAND integration for marking digital iconographical collections stored in BIDL and for sharing them as virtual exhibitions on mobile devices.

Several issues were considered and appropriate services were created during the BIDL-GUIDE@HAND integration. The BIDL content editor tool allows the users to create personalised collections of selected iconographical objects and to save, edit, or delete these collections. Each collection gets a unique QR code, which can be used to generate an export package. The generated zip file is stored on the BIDL server and can be read by the GUIDE@HAND mobile application. This QR code can be read by GUIDE@HAND and it is recognized as a BIDL QR code, the mobile application downloads the zip file. The downloaded collections are stored and managed locally and the downloaded icons and the related descriptions can be presented in GUIDE@HAND mobile application (see [12] for more information on the integration).

The following picture (Fig. 1) depicts the QR code accessibility point from BIDL desktop mode web page (an example of icons collection from the Regional History Museum in Veliko Tarnovo).

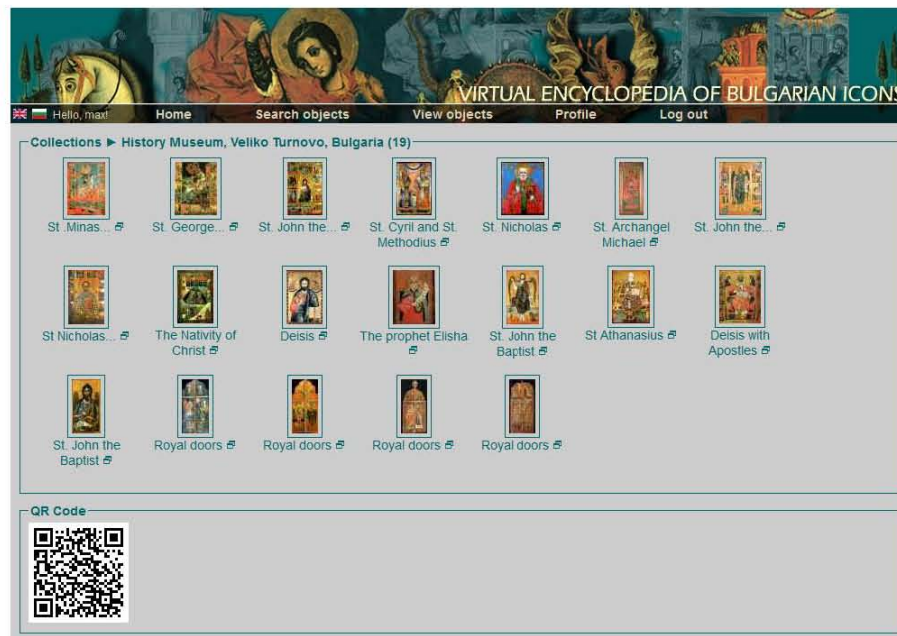


Figure 1. Collection of icons from Regional History Museum in Veliko Tarnovo

For supporting QR code creation of the existing collections in BIDL, a migration process was developed. The creation of offline archives was developed as a real-time process. In this process, the collection archive is build every time a mobile request is made with the help of the QR code. The purpose of this real-time archive creation is to preserve the content dynamics, because the BIDL collections are not static and do not depend on the sets of selected objects, but on the characteristics of objects.

3. Applications

This section introduces the mobile applications developed in cooperation between IMI BAS and MTA SZTAKI. The applications present valuable Bulgarian cultural and scientific assets. Four mobile applications were developed within the framework of the cooperation:

- GUIDE@HAND Veliko Tarnovo

- BOOK@HAND BIDL (Bulgarian Iconographical Digital Library)
- INFO@HAND DIPP (International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage)
- BOOK@HAND Bells

3.1. GUIDE@HAND Veliko Tarnovo

Veliko Tarnovo represents one of the most significant towns in the history of Bulgaria. GUIDE@HAND Veliko Tarnovo mobile application helps tourists to discover a city with interactive offline map, detailed description of sights, guided tours, event recommender, audio narration, etc. (Fig. 2). The application is available in Bulgarian and English languages.



Figure 2. Screenshots from GUIDE@HAND Veliko Tarnovo.

3.2. BOOK@HAND BIDL

The aim of BOOK@HAND DIPP mobile application is to provide the content of Bulgarian Iconographical Digital Library offline on smart phones and tablets (Fig. 3) [12, 13, 14]. It can be used to present user generated collections

in a list form or as virtual panorama pictures. The application is available in two languages (Bulgarian and English).



Figure 3. Screenshots from BOOK@HAND BIDL

The application uses a built-in QR code reader to scan the QR code of the selected collection on the Web site. The QR code contains an URL pointing to the package consisting of the icons in the collection. After scanning the code, the content package is downloaded from the BIDL web server and becomes available under the Icons function.

The user can find the downloaded collections offline under the Collection function. The function enlists the titles of collections. The icons in a selected collection can be presented to the user in list view and panorama view. The list view displays a list containing thumbnails and titles of the icons belonging to the collection. When an icon is selected from the list, its picture and detailed data sheet is presented to the user.

3.2.1. Interactive multimedia.

Panorama Pictures. Interactive panorama pictures can be used to present sights both indoors and outdoors. Virtual panorama pictures have been applied for presenting the collections of Bulgarian icons on mobile devices. The virtual panorama displays the icons of the collection positioned around a virtual exhibition room (Fig. 4). The screen displays only a segment of the virtual room while the user looks around in the virtual room. The icons in the panorama view can be zoomed and selected. After selection, detailed information is presented about the icons.



Figure 4. Panorama view in landscape mode.

The virtual panorama is generated on the device from the collection of icons and the background. There is no theoretical limit on the number of icons presented. There are two methods: automatic mode and manual mode, for presenting virtual panoramas in the application.

3.2.2. Gamification.

Because of integration in the web-based digital libraries and mobile application, several interactive games are developed to deepen the users' knowledge for Bulgarian icons. Each game has a question pool of all the BIDL objects and can be maintained by the Game Administrator. During the game, some of the questions/answers are randomly selected from the pool. The application contains the following games: Ordering, Blind map, Memory game, Sliding puzzle.

The interactive games can run on Web or offline on mobile platforms (Android, iOS). MTA SZTAKI had applied Flash technology under Web and Android platforms for many years. However, the iOS platform does not support the application of the technology at all. For this reason, MTA SZTAKI replaced Flash with HTML5 in all eLearning and smart phone developments. HTML5 together with CSS3 technology was successfully applied in multiplatform game development.

3.3. INFO@HAND DIPP.

The International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage (DiPP) is organised by IMI BAS under the patronage of UNESCO. It is organised annually from 2011. The INFO@HAND DIPP mobile application provides information for the participants about the DIPP conference series [15, 16]. The INFO@HAND offline mobile applications primarily target conference participants and scientists interested in the scope and topics of conference series. The offline application is more than a conference guide because it can also present the conference materials (papers and information on presenters) of the preceding years representing a scientific knowledge base.

3.4. BOOK@HAND Bells.

BOOK@HAND Bells presents offline the information in BellKnow archive (Fig. 5) [8]. The application is available in Bulgarian and English languages.



Figure 5. Screenshot from **BOOK@HAND Bells**.

The Places function contains a list of locations where the bells can be found. The places are grouped into categories (churches, monasteries, museums) and the list of the places can be sorted by their distance from the current location of the user. A list belongs to each place where the first item contains general information on it and the further items refer to the bells located there. The Explore function shows an interactive map with the locations of the bells. Either online or offline maps can be presented. In case of offline maps, the user does not have to pay for the Internet. If online map is used, less storage is used on the mobile device. The interactive map shows the current location of the user and the places of the bells.

4. Conclusion

Several mobile applications, which can present information available in digital libraries for Bulgarian cultural heritage, have been created. Users can get personalised information through their smartphones or tablets at any time and any place. The content can be presented offline, i.e., the user can view the content on a mobile device even without Internet connection. Mobile applications serve as new tools to reach a broader audience. This knowledge can be success-

fully exploited in presentation of other cultural and scientific collections as well. Interactive multimedia components such as panorama view, games and personalised collections proved to be useful tools to deepen the users' knowledge about highly valuable pieces of cultural heritage.

References

1. Pavlova-Draganova, L., D. Paneva, L. Draganov. Knowledge Technologies for Description of the Semantics of the Bulgarian Iconographical Artefacts, In the Proceedings of the Fifth HUBUSKA Open Workshop "Knowledge Technologies and Applications", 31 May - 1 June, 2007, Kosice, Slovakia, pp. 41-46
2. Pavlov, R., D. Paneva-Marinnova, M. Goynov, L. Pavlova-Draganova. Services for Content Creation and Presentation in an Iconographical Digital Library, International Journal "Serdica Journal of Computing", vol.4, 279-292 (2010)
3. Pavlova-Draganova, L., V. Georgiev, L. Draganov. Virtual Encyclopaedia of Bulgarian Iconography, International Journal "Information Technologies&Knowledge", 1(3), 2007, 267-271
4. Pavlova-Draganova, L., D. Paneva-Marinnova, R. Pavlov, M. Goynov. On the Wider Accessibility of the Valuable Phenomena of Orthodox Iconography through Digital Library. In: 3rd International Conference dedicated on Digital Heritage (EuroMed 2010), Lymassol, Cyprus, 2010, 173-178.
5. Pavlova-Draganova, L., D. Paneva-Marinnova, L. Draganov. A Use Case Scenario for Technology-Enhanced Learning through Semantic Web Services, International Journal „Information Technologies & Knowledge”, vol. 3, Number 3, 2009, pp. 257-268
6. Paneva, D., L. Pavlova-Draganova, L. Draganov. Digital Libraries for Presentation and Preservation of East-Christian Heritage, In proc. of HUBUSKA Second Open Workshop "Generic Issues of Knowledge Technologies", Budapest, Hungary, 2005, pp. 75-83.
7. Bogdanova, G., T. Todorov, N. Noev. Semantic Model of Digital Resources of Bulgarian Bells, *Mathematica Balkanica, NewSeries* Vol. 25, 2011, ISSN: 0205-3217, Fasc. 5, pp. 483-490, 2011.

8. Bogdanova, G., T. Todorov, N. Noev. Creating and Representing Semantic Knowledge of Bell Objects. *International Journal of Applied Engineering Research*, 12, 19, Research India Publications, 2017, ISSN: 0973-4562, 8986-8994.
9. Noev, N., Approaches and Methodologies of Creating, Storing, Presentation and Protection of Digital Resources in the Field of Cultural and Historical Heritage via Technologies Based on Knowledge, In: Luchev, D. (ed.). DiPP'15 International UNESCO Conference, Veliko Tarnovo, Bulgaria, 28-30
10. Márkus, Zs. L., B. Wagner. GUIDE@HAND: Digital GPS Based Audio Guide that Brings the Past to Life. In the Proceedings of International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage, Vol. 1, No 1, 2011, pp. 15-25.
11. GUIDE@HAND, <http://guideathand.com/en/index>, 16 June 2017.
12. Kaposi, G., T. Szkaliczki, Zs. L. Márkus, D. Luchev, M. Goynov, D. Paneva-Marinova. Mobile Exploring of the Bulgarian Iconography through QR Codes in the GUIDE@HAND Tourist Guide Application. In the Proceedings of UNESCO International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage, September 18-21, 2013, Veliko Tarnovo, Bulgaria, 2013, pp. 44-52
13. Márkus, Zs. L., G. Kaposi, T. Szkaliczki, D. Luchev, R. Pavlov, BOOK@HAND BIDL: Mobile Exploring of the Bulgarian Iconography by Using Panorama Pictures, UNESCO International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage, September 28-30, 2015, Veliko Tarnovo, Bulgaria, pp. 109-120.
14. Luchev, D., D. Paneva-Marinova, R. Pavlov, G. Kaposi, Zs. L. Márkus, G. Szántó, T. Szkaliczki, M. Veres. Game-based Learning of Bulgarian Iconographical Art on Smart Phone Application, International Conference on e-Learning'16, September 8-9, Bratislava, Slovakia, pp. 195-200
15. Márkus, Zs. L., G. Kaposi, G. Szántó, T. Szkaliczki, Z. Weisz, W. Routsalainen, D. Luchev, R. Pavlov. INFO@HAND: Mobile Application for Conference Series, UNESCO International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage, September 28-30, 2015, Veliko Tarnovo, Bulgaria, pp. 219-226.
16. INFO@HAND, DiPP <http://guideathand.com/en/content/dipp>, 16 June 2017.

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