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Message from the FutureTech2018 General Chairs

FutureTech 2018 is the 13th event of the series of international scientific conference. This conference takes place on April 23–25, 2018 in Salerno, Italy. The aim of the FutureTech 2018 is to provide an international forum for scientific research in the technologies and application of information technology. FutureTech 2018 is the next edition of FutureTech2017 (Seoul, Korea), FutureTech2016 (Beijing, China), FutureTech2015 (Hanoi, Vietnam), FutureTech2014 (Zhangjiajie, China), FutureTech2013 (Gwangju, Korea), FutureTech2012 (Vancouver, Canada), FutureTech2011 (Loutraki, Greece), and FutureTech2010 (Busan, Korea, May 2010) which was the next event in a series of highly successful the International Symposium on Ubiquitous Applications & Security Services (UASS-09, USA, January, 2009), previously held as UASS-08 (Okinawa, Japan, March, 2008), UASS-07 (Kuala Lumpur, Malaysia, August, 2007), and UASS-06 (Glasgow, Scotland, UK, May, 2006).

The conference papers included in the proceedings cover the following topics: Hybrid Information Technology, High Performance Computing, Cloud and Cluster Computing, Ubiquitous Networks and Wireless Communications, Digital Convergence, Multimedia Convergence, Intelligent and Pervasive Applications, Security and Trust Computing, IT Management and Service, Bioinformatics and Bio-Inspired Computing, Database and Data Mining, Knowledge System and Intelligent Agent, Game and Graphics, and Human-Centric Computing and Social Networks. Accepted and presented papers highlight new trends and challenges of future information technologies. We hope readers will find these results useful and inspiring for their future research.

We would like to express our sincere thanks to Steering Chair: James J. (Jong Hyuk) Park (SeoulTech, Korea). Our special thanks go to the Program Chairs: Giuseppe Fenza (University of Salerno, Italy), Guangchun (Luo University of Electronic Science and Technology of China, China), Ching-Hsien Hsu (Chung Hua University, Taiwan), Jungho Kang (Baewha Women’s University, Korea), Houcine Hassan (Universitat Politecnica de Valencia, Spain), Kwang-il Hwang (Incheon National University, Korea), Jin Wang (Yangzhou University, China), all Program Committee members, and all reviewers for their valuable efforts in the
review process that helped us to guarantee the highest quality of the selected papers for the conference.

We cordially thank all the authors for their valuable contributions and the other participants of this conference. The conference would not have been possible without their support. Thanks are also due to the many experts who contributed to making the event a success.

FutureTech 2018 General Chairs

Vincenzo Loia, University of Salerno, Italy
Kim-Kwang Raymond Choo, University of Texas at San Antonio, USA
Gangman Yi, Dongguk University, Korea
Jiannong Cao, Hong Kong Polytechnic University, Hong Kong
Welcome to the 13th International Conference on Future Information Technology (FutureTech 2018), which will be held in Salerno, Italy on April 23–25, 2018. FutureTech 2018 will be the most comprehensive conference focused on the various aspects of information technologies. It will provide an opportunity for academic and industry professionals to discuss recent progress in the area of future information technologies. In addition, the conference will publish high-quality papers which are closely related to the various theories and practical applications in multimedia and ubiquitous engineering. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in these important subjects.

For FutureTech 2018, we received many paper submissions, after a rigorous peer review process, we accepted only articles with high quality for the FutureTech 2018 proceedings, published by the Springer. All submitted papers have undergone blind reviews by at least two reviewers from the technical program committee, which consists of leading researchers around the globe. Without their hard work, achieving such a high-quality proceeding would not have been possible. We take this opportunity to thank them for their great support and cooperation. We would like to sincerely thank the following invited speaker who kindly accepted our invitations, and, in this way, helped to meet the objectives of the conference: Prof. Yi Pan, Regents’ Professor and Chair of Department of Computer Science, Georgia
State University, Atlanta, Georgia, USA. Finally, we would like to thank all of you for your participation in our conference, and also thank all the authors, reviewers, and organizing committee members. Thank you and enjoy the conference!

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Message from the MUE2018 General Chairs

MUE 2018 is the 12th event of the series of international scientific conference. This conference takes place on April 23–25, 2018 in Salerno, Italy. The aim of the MUE 2018 is to provide an international forum for scientific research in the technologies and application of Multimedia and Ubiquitous Engineering. Ever since its inception, International Conference on Multimedia and Ubiquitous Engineering has been successfully held as MUE-17 (Seoul, Korea), MUE-16 (Beijing, China), MUE-15 (Hanoi, Vietnam), MUE-14 (Zhangjiajie, China), MUE-13 (Seoul, Korea), MUE-12 (Madrid, Spain), MUE-11 (Loutraki, Greece), MUE-10 (Cebu, Philippines), MUE-09 (Qingdao, China), MUE-08 (Busan, Korea), and MUE-07 (Seoul, Korea).

The conference papers included in the proceedings cover the following topics: Multimedia Modeling and Processing, Multimedia and Digital Convergence, Ubiquitous and Pervasive Computing, Ubiquitous Networks and Mobile Communications, Ubiquitous Networks and Mobile Communications, Intelligent Computing, Multimedia and Ubiquitous Computing Security, Multimedia and Ubiquitous Services, Multimedia Entertainment. Accepted and presented papers highlight new trends and challenges of Multimedia and Ubiquitous Engineering. We hope readers will find these results useful and inspiring for their future research.

We would like to express our sincere thanks to Steering Chair: James J. (Jong Hyuk) Park (SeoulTech, Korea). Our special thanks go to the Program Chairs: Carmen De Maio (University of Salerno, Italy), Naveen Chilamkurti (La Trobe University, Australia), Ka Lok Man (Xi’an Jiaotong-Liverpool University, China), Yunsick Sung, (Dongguk University, Korea), Joon-Min Gil (Catholic University of Daegu, Korea), Wei Song (North China University of Technology, China), all
Program Committee members, and all reviewers for their valuable efforts in the review process that helped us to guarantee the highest quality of the selected papers for the conference.

MUE2018 General Chairs

Vincenzo Loia, University of Salerno, Italy
Shu-Ching Chen, Florida International University, USA
Yi Pan, Georgia State University USA
Jianhua Ma, Hosei University, Japan
Welcome to the 12th International Conference on Multimedia and Ubiquitous Engineering (MUE 2018), which will be held in Seoul, South Korea on May 22–24, 2018. MUE 2018 will be the most comprehensive conference focused on the various aspects of multimedia and ubiquitous engineering. It will provide an opportunity for academic and industry professionals to discuss recent progress in the area of multimedia and ubiquitous environment. In addition, the conference will publish high-quality papers which are closely related to the various theories and practical applications in multimedia and ubiquitous engineering. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in these important subjects.

For MUE 2018, we received many paper submissions, after a rigorous peer review process, we accepted only articles with high quality for the MUE 2018 proceedings, published by the Springer. All submitted papers have undergone blind reviews by at least two reviewers from the technical program committee, which consists of leading researchers around the globe. Without their hard work, achieving such a high-quality proceeding would not have been possible. We take this opportunity to thank them for their great support and cooperation. Finally, we would like to thank all of you for your participation in our conference, and also thank all the authors, reviewers, and organizing committee members. Thank you and enjoy the conference!

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Mobile Application for the Teaching of English

Aleš Berger and Blanka Klímová

Abstract At present, modern information technologies are part and parcel of everyday life. Young people consider them as natural as breathing. And mobile applications are no exception. Research indicates that the use of smartphone apps is effective in the teaching of English at university level, especially in the teaching of English vocabulary. Therefore, the purpose of this article is to discuss a mobile application for the teaching of English whose content corresponds to the needs of its users. The mobile application was designed for and piloted among students of Management of Tourism in their third year of study. The authors describe both technical and content issues of this application. The first results indicate that the use of the mobile application is considered to be positive since the application is interactive and enables faster and more efficient learning.

Keywords Mobile application · English · Students · Benefits

1 Introduction

Currently, modern information technologies are part and parcel of everyday life. Young people consider them as natural as breathing. And mobile applications are no exception. Research shows that about 92% of young people at the age of 18–29 years own a smartphone [1]. As Saïfi [2] states, 52% of the time individuals spend on digital media is on mobile apps. In fact, the age group of 18–24 years spends about 94 h per month on mobile applications [3]. According to the statistics,
women spend more time on the mobile web and mobile apps than men. The statistics further reveal that people spend 43% of their mobile app time on games, 26% on social networking, 10% on entertainment, 10% on utilities, 2% on news and productivity, 1% on health fitness and lifestyle, and 5% on others [2].

In addition, young people often use mobile apps in the acquisition of their knowledge and skills. The reason is that smartphones are easy to carry and the Internet/Wifi connection is available almost anywhere in the developed countries. Thus, students can study anywhere and at any time [4].

2 Students’ Needs

Research indicates that the use of smartphone apps is effective in the teaching of English at a university, especially in the teaching of English vocabulary [4–12]. The lack of vocabulary, according to a survey carried out among the students of Management of Tourism, is one of the most serious weaknesses in their learning of English (consult Fig. 1).

Therefore, this winter semester of 2017 students had the opportunity to try out a new method of teaching, the so-called blended learning, which consisted of the traditional, contact classes and, as a support, they could exploit mobile learning targeted at the learning and practicing of English words and phrases discussed in the contact classes.

Fig. 1 Needs analysis carried out among the third year’s students of Management of Tourism, indicating that vocabulary is their weakness (Authors’ own processing)
3 Mobile Application for the Teaching of English—Its Description

The described solution is divided into two application parts and one server part. The first application part is designed as a web interface for the teacher and the second application part is presented with a mobile application for students. The server part is responsible for storing information, authenticating users, efficiently collecting large data, processing, distributing messages, and responding to events from both applications.

The main principle of the proposed solution is Firebase technology from Google, Inc. After a thorough analysis of all requirements and possibilities, this technology was identified as the most suitable. Firebase offers a variety of mobile and web application development capabilities, ranging from authentication, efficient data retention to communication.

The web application offers a number of features specifically for the teacher. Each teacher can manage several lessons. Each lesson defines individual lessons to which specific words and phrases fall. Teachers can register their students, distribute news or alerts through notifications, and respond to their comments. Using these options, the teacher can make contact with his/her students and draw attention to the upcoming events. The web interface also offers a key element, which is the visualization of the results of all students. Based on the visualization, it is possible to evaluate each student separately, to compare the results between several study courses or to modify the study plan (Fig. 2).

The web application is written in Javascript. A modern ReactJS library from Facebook, Inc. was used for the user interface. Thanks to the strong community
around this library, many other add-ons can be used to make it easier for the teacher to make the web environment simple, fast and intuitive.

Students are assigned a mobile application. Through a mobile application, the student is enrolled into a specific course. The app offers the ability to study and test available vocabulary and phrases. The student chooses the lesson s/he needs to study and tests words and phrases in it. For each phrase or vocabulary, s/he can get a translation, while using TextToSpeech technology, as well as pronunciation. The application enables immediate communication with the teacher. At the same time, the application collects all user data and distributes it to the server part for subsequent research and evaluation by the teacher. The student is advised by his/her teacher by means of notifications, e.g., to study a certain lesson. Via the mobile application, the student is able to contact his/her teacher at any time to make contact and discuss the given problem (Fig. 3).

One of the principles of the mobile application is its simplicity. It is very important for the user to concentrate only on the studied issues. Many of the available mobile applications that focus on similar issues also offer possibilities and functionality that the student does not use and unnecessarily complicate the learning.

**Fig. 3** An overview of available lessons
process through the application. This mobile application offers only what students really need and is designed to be as simple as possible for their users.

Currently, the proposed solution only offers an Android application, which is available for free at Google Play store. The reason was the ratio of students who use the Android operating system on their smart devices. Java was selected to develop the mobile application. The next step in the development of this mobile application will also include its expansion to the Apple’s platform and iOS, as well as implementing this mobile app in companies to enhance their communication with foreign partners [13].

4 Conclusion

The mobile application described above was in use both for full-time and part-time students of Management of Tourism in their third year of study from October 2017 till December 2017 as a pilot project. Overall, on the basis of students’ evaluation, it was accepted positively. Students especially appreciated its interactivity. They also pointed out that they had been learning faster and more effectively since they could use it at any time and anywhere on the way home, for example, on the bus or train. The main thing was that they were forced to learn and revise new vocabulary because they were sent notifications by their teacher twice a week.

The next step is to analyze students’ final tests and see whether the students who used the mobile application had better results than those who did not use it.

Acknowledgements This review study is supported by the SPEV project 2018, Faculty of Informatics and Management, University of Hradec Kralove, Czech Republic.

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