

DELbA 2020

Workshop on Designing and Facilitating Educational Location-based Applications

Preface

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1 Background

Mobile devices and mobile internet are the prerequisites for location-based apps, which interpret the current location for providing position-sensitive information. In form of games, location-based apps are extremely popular. For example, 2013 Ingress [1] generated a hype that was surpassed by 2016 Pokémon GO [2] with an even larger player base. Other forms of location-based apps include AR browsers, such as Wikitude [3], and digital tour apps, such as ARIS [4] or PlayVisit [5]. From a didactical perspective, location-based apps have a number of characteristics that make their use as learning tools very promising. Examples are location-based apps guiding learners to real objects on locations and supplementing these objects with information to be learned. Exemplarily, the contiguity principle is one of the principles of the Cognitive Theory of Multimedia Learning [6] supported: learning effects are reinforced by the temporal and/or spatial combination of object and information. Further principles of multimedia learning, such as signaling (i.e. the insertion of additional clues) can also be implemented using location-based apps. Additionally, location-based apps may also serve as social interaction triggers for collaborative learning settings, such as the joint development of learning content in groups or for making decisions and achieving goals as a team.

Based on the experiences of our previous workshops on educational location-based games in Arequipa, Peru [7] and Vienna, Austria [8], in this workshop the focus will be shifted to the benefits of location-based apps in general for educational purposes.

Drawing on the debate on mobile and context-based learning, we want to foster a discourse on the context in which location-based applications are the tools most valuable for learning. In addition, the workshop is intended to elicit design guidelines that ensure a balance between educational purpose and technical content in the development and use of location-based applications.

2 Organizational Setting and Topics of Contributions

The workshop consist of two parts: It starts with a set of short presentations to three different topics:

- Location-based games: 21st century skills and didactic history
- Didactic designs for educational location-based apps
- Learning and virtualization of location-based apps

The contributions for this part comes from a public call for participation and aims at providing the workshop participants a quick overview of research in the field. This opens up the possibility for also novices in the field to have an active contribution in the second phase of the workshop, which comprises group activities aiming at identifying new research topics and support cross-institutional collaboration.

We received all in all eight submissions that all underwent a double-blind peer review ensuring at least two reviews and at max three reviews per paper. Many of the submissions were highly fitting the call and of high quality. With the engagement and the constructive critics and suggestion from the program committee, it was possible to leverage all submissions to such a good quality that they can be published. We expect that these eight highly relevant contributions will impose interesting research questions and lively discussions. We would like to thank the members of the program committee for their valuable and constructive detailed work in preparing the reviews:

- Jeferson Arango Lopez (Universidad de Caldas, Colombia)
- Thomas Bröker (TH Nuremberg, Germany)
- Annamaria Cacchione (Istituto Nazionale di Documentazione, Innovazione e Ricerca Educativa, Italy)
- Trina Julian Edwards (Metro Nashville Virtual School, United States)
- David Gagnon (University of Wisconsin-Madison, United States)
- Yiannis Georgiou (Cyprus University of Technology, Cyprus)
- Mark Gaved (The Open University, United Kingdom)
- Jimmy Jaldemark (Mid Sweden University, Sweden)
- Peter Mozelius (Mid Sweden University, Sweden)
- Ekaterina Pechenkina (Swinburne University of Technology, Australia)
- Anton Nijholt (TU Enschede, The Netherlands)
- Ioana Andreea Stefan (Advanced Technology Systems, Targoviste, Romania)

3 Outlook

We believe that the following contributions, which are presented during the workshop in three sessions, constitute an excellent groundwork for a prosperous outcome of the workshop. It is our hope that the workshop will further develop the topic of educational location-based apps and contribute to further productive networking within the community of researchers and further stakeholders.

4 References

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