Mobile Game for Virtual Heritage Exploration – MHEX

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Abstract. In this paper, we present a virtual heritage application called MHEX (Mobile Heritage Exploration for George Town) that provides a technology-integrated environment that allows users to gain knowledge of various heritage sitesthrough gaming on mobile platform. With this application, everybody can learn about the significance of various heritage sites through a game that combines the games of monopoly and treasure hunt. The game is implemented and tested within the urban environment of George Town, Malaysia, running on iPhone from Apple.

Keywords: Game,mobile platform, panoramic view.

1 Introduction

Interactive entertainment systems traditionally offer a limited choice of user interface technologies and interaction styles that make little use of the human body and require low physical exertion. The first-ever mobile phone game was the black-and-white Snake that was embedded in Nokia 6110 model in 1997. Recently, a new generation of mobile phone games that encourages new styles in interactive recreation began to emerge in the market. An application with rich interactive entertainment is very much needed to transform the heritage sites into an interactive entertainment application.In this paper, we preset a virtual heritage exploration system that allows the user to explore the heritage sites through gaming on a mobile platform.

2 Overview of the MHEX

The MHEX architecture is based on multi-tier that consists of the Monopoly and Treasure Hunt modules as shown in Fig. 1. MHEX is implemented using the Objective C programming language and Apple X-Code as the Integrated Development Environment (IDE) to develop the game's platform.The main purpose of MHEX is to facilitate digital preservation of the heritage site using leading edge technologies. The application enables user to learn about the heritage sites while playing the games.

The MHEX application is designed based on the classical board game called Monopoly together with the game of Treasure Hunt. The player can control the virtual

A.L. Brooks (Ed.): ArtsIT 2011, LNICST 101, pp. 168–170, 2012.

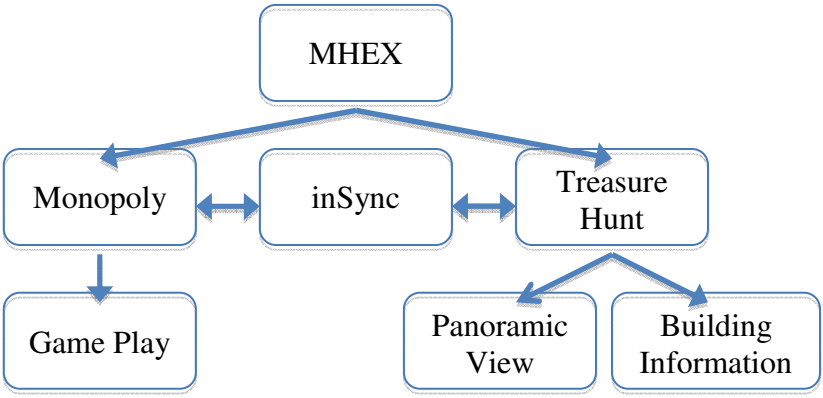

Fig. 1. Architecture of the MHEX Application

character (an icon) by rolling a dice to move around. The Monopoly component consists of Game Play module where it stores all the icons, board, and properties. inSync is the component where it serves as the intermediate cell or bridge between Monopoly and Treasure Hunt to allow the user to play Monopoly and Treasure Hunt concurrently without any delay. The Treasure Hunt component consists of Panoramic View and Building Information. Panoramic View module stores all the heritage sites' view while Building Information module stores all the information of the heritage sites. All the Panoramic View and Building Information are presented in a table format through inSync component. The layout of MHEX for the heritage zone of George Town is as shown in Fig. 2. The main window is based on the monopoly platform. The monopoly map takes a huge portion of the screen in order to ensure that the players have a proper view of the route. MHEX provides a game background that is customized for the core of heritage zone of George Town, Penang in Malaysia.

Fig. 2. The Interface for MHEX

3 Conclusion

The application is created as close as possible to the heritage sites in George Town, Penang. It allows the users to explore and learn about the heritages sites of the core heritage zone of the citythrough the mobile game anywhere and anytime.

Acknowledgement. This work presented is supported by Research Univerisiti Grant U0829 and scholarship from MyPhD, MyBrain15 for Malaysia researchers. The authors would also like to thank Tan Kian Guan, Poon Pui Yee, Kong Yng Jye and Chin Kew Yee for their contributions in the development of MHEX.

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