Product Specification

OTMA Game

SS 2012 Software Systems

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TABLE OF CONTENTS

History

Version	Autor	Datum	Status	Kommentar
1.0	F. Wiedenmann	27.03.2012		Initial version
1.1	R. Lieback J. Leimer M. Klass	19.06.2012		Final version

1 Problem statement

1.1 Motivation

People who are interested in OTMA have to be able to get information via an interactive mobile application. They should be able to learn about OTMA's staff as well as offered conferences and workshops on a given conference day.

1.2 State of the art

The applications are created from scratch.

1.3 Goal

The goal of the project is the development of a serious game for mobile devices running on three (native) mobile platforms (Android, Windows Phone 7, HTML5) to reach a broad audience.

1.4 Approach

In order to provide the best possible portability the application is to be implemented on Android, Windows Phone 7 and with HTML5. In addition, a common foundation design has to be shared among all three platform applications, in order to keep porting and maintenance efforts at a minimum level.

To be able to share work among all team members, the application is to be developed by separate developers. The code basis is managed in a Github project (https://github.com/paeh/OTMA). The platform also has to be used for issue tracking.

1.5 Limitations

Because of lacking technical infrastructure and time reasons, a separate application for iOS is not provided.

1.6 Responsible persons

The project is developed using agile methods. This is why a project leader, technical project leader and functional developers cannot be specified within the team.

1.7 Stakeholder

The main stake holder is the OTM Academy (http://www.onthemove-academy.org), which is represented by Peter Spyns (OTM Academy) and Mrs. Metzner (HS-Augsburg).

The software is provided as-is, without any support or warranty from the developing students. The resulting codes remains property of the developing students.

1.8 Deadline (optional)

The software has to be provided at latest on 03.07.2012.

2 Requirements

2.1 Version specific requirements

2.1.1 Functional requirements

- The game world consists of a 5x5 labyrinth
- Each cell of the labyrinth contains one or multiple paths the player can traverse
- The player can move to the next cell either above, below, right or left of his current location, determined by the available paths of the current cell.
- Cells can contain doors
- Doors can be marked with text (e.g. „EXIT“ for the last door), which means that a workshop or a conference occurs within the associated room
- If being associated with a room, a door can be entered
- Cells can contain NPCs (OTMA employees), which introduce themselves to the player
- NPCs move around the labyrinth (i.e. switch cells) with a speed slower than the player can move.
- The game starts by showing a lobby / reception. The user has to press the Start button to start the game.
- The game lobby contains a hint where all the hints available in the game can be found.
- Random events take place in rooms (for instance presentation on OTM topics, coffee breaks, etc.)
- The player receives a hint when visiting rooms during a presentation
- The player needs to collect a configurable number of hints for the OTMA WIN door to open and talk to a configurable number of NPCs.
- To successfully end the game, the player has to exit through the OTMA door
- On completing the game, the player receives information regarding the advantages of OTMA and can enter his email address to receive further information
- Load configuration / data from external XML file

2.1.2 Interface requirements

The applications have to be able to read input data from a given XML document. Its size has to conform to the following XSD file:

```
<xsd:schema xmlns="http://www.onthemove-academy.org/schema/config"
	xmlns:xsd="http://www.w3.org/2001/XMLSchema"
	targetNamespace="http://www.onthemove-academy.org/schema/config"
	elementFormDefault="qualified">

	<xsd:import namespace="http://www.w3.org/XML/1998/namespace" />

	<xsd:element name="config">
		<xsd:complexType>
			<xsd:sequence>
				<xsd:element ref="people" />
				<xsd:element ref="events" />
				<xsd:element ref="hints" />
			</xsd:sequence>
```

```
		</xsd:complexType>
	</xsd:element>

	<xsd:element name="people">
		<xsd:complexType>
			<xsd:sequence maxOccurs="unbounded">
				<xsd:element name="person" type="personType" />
			</xsd:sequence>
		</xsd:complexType>
	</xsd:element>

	<xsd:complexType name="personType">
		<xsd:sequence>
			<xsd:element name="introduction" type="xsd:string" />
		</xsd:sequence>
		<xsd:attribute name="name" type="xsd:string" />
		<xsd:attribute name="title" type="xsd:string" />
	</xsd:complexType>

	<xsd:element name="events">
		<xsd:complexType>
			<xsd:sequence maxOccurs="15">
				<xsd:choice>
					<xsd:element name="conference" type="eventType" />
					<xsd:element name="workshop" type="eventType" />
				</xsd:choice>
			</xsd:sequence>
		</xsd:complexType>
	</xsd:element>

	<xsd:complexType name="eventType">
		<xsd:sequence>
			<xsd:element name="description" type="xsd:string" />
		</xsd:sequence>
		<xsd:attribute name="title" type="xsd:string" />
		<xsd:attribute name="abrv" type="xsd:string" />
	</xsd:complexType>

	<xsd:element name="hints">
		<xsd:complexType>
			<xsd:sequence maxOccurs="6">
				<xsd:element name="hint" type="hintType"/>
			</xsd:sequence>
		</xsd:complexType>
	</xsd:element>

	<xsd:complexType name="hintType">
		<xsd:simpleContent>
			<xsd:extension base="xsd:string">
				<xsd:attribute name="title" type="xsd:string" />
			</xsd:extension>
		</xsd:simpleContent>
	</xsd:complexType>
</xsd:schema>
```

2.1.3 GUI requirements

- The GUI has to consist of map items and control elements (i.e. buttons for navigation)
- The world is presented in 2D isometric perspective
- The world either shows a cell (optional with door(s) and/or NPCs) or a room
- Rooms are to be presented in 2D view as well
- NPCs are presented as two dimensional faces/avatars
- Usable doors are marked by a text (name of a OTMA workshop/conference)
- Information (like presentations or NPC interaction) are provided via text

2.1.4 Non-functional requirements

- The application has to be ported to Android, Windows Phone and HTML5 in order to make it available for a broad audience
- All components are tested thoroughly via visual verification

2.2 Optional requirements (optional)

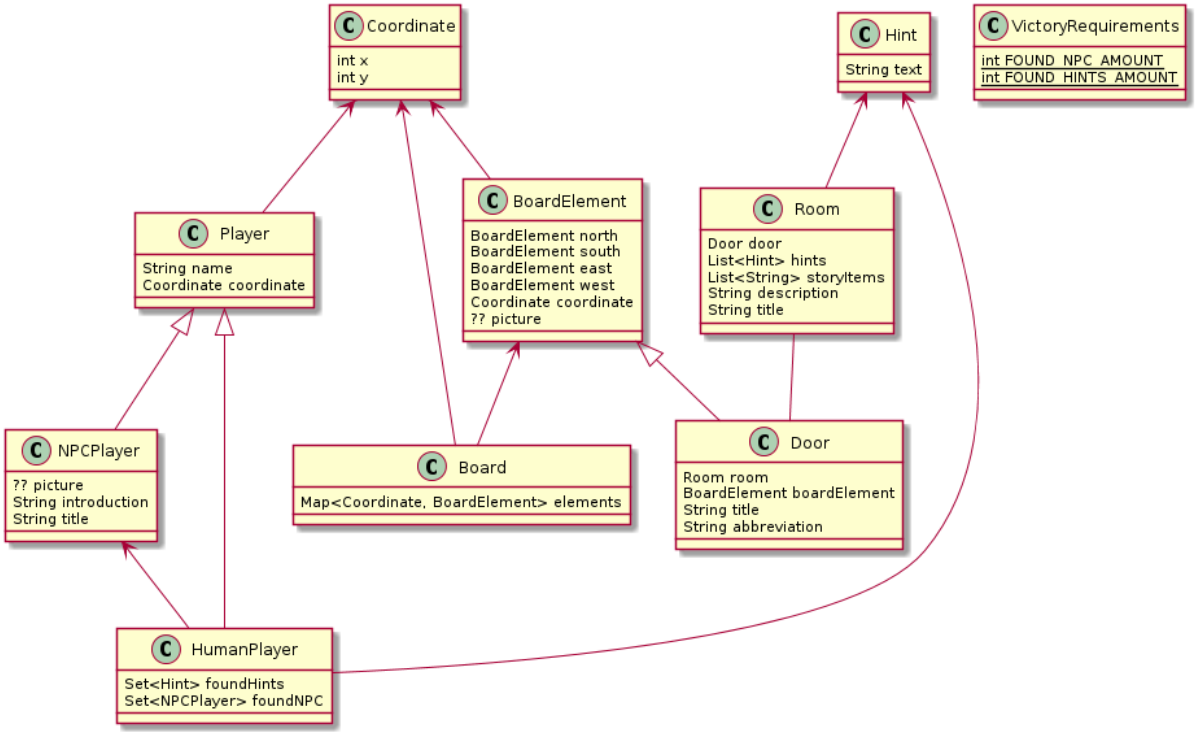
- Obstacles in the labyrinth (e.g. bar, pool, beach) that cost some time
- The player can lose the registration card and, consequently, has to return to registration desk, as he cannot enter any rooms any more.
- Friendly NPCs yielding positive effects (for instance providing new registration cards, shortening time spent in obstacles etc.)
- Hall of Fame showing best players and the time they needed to complete the game
- Multi-player mode allowing several players to wander the labyrinth simultaneously

2.3 Declined requirements

- The player does not receive a registration card at the reception, as the feature to lose the registration card within the game has not been implemented due to time reasons.
- NPCs do not have effects on the player except of providing information and incrementing a counter, so that the win door opens.
- A Hall of Fame is not implemented, as this requires a server application to make interchanged high scores possible. Creating a server application is not focus of this project.
- The user may not enter an E-Mail address at the end of the game, as this required the implementation of a mail server or a mail back-end.

3 Additional Information (optional)

3.1 Domain Model



3.2 Version Management / Issue Tracking

The version management and issue tracking can be found when browsing for https://github.com/paeh/OTMA.