INTERSTITIAL VIEWER: WORLD
PROJECT CHARTER - DRAFT

PROJECT NAME: Intersitial Viewer: World

Sponsor: Dr. Derek Reilly
Project Manager: Benjamin DeCoste
Customer: Dr. Derek Reilly
Updated By: Benjamin DeCoste
Charter Version Number: 1.0
Approved By: Benjamin DeCoste
Approval Date: January 20, 2012

SCHEDULE:
Start Date: January 20, 2012
End Date: March 29, 2012

OBJECTIVE STATEMENT:
The interstitial viewer:world is a proof of concept design that shows it is possible to integrate an augmented reality handheld device into the open wonderland framework, Twin Space, and D'Acadien.

IN SCOPE:
The goal of this project is to show whether or not it is possible to implement an augmented reality using GPS, compass, and gyroscope to track where a player is in the game at any given time, and track where the user goes depending on where he or she moves in the real world. This project is a proof of concept to show whether or not it can be achieved using current game architecture and framework (ie open wonderland).

The player should be able to navigate the game world, using the viewer, wherever he or she is, as long as he or she can be connect to the other players using the game. That player should be able to see game objects in real distance from the player.

OUT OF SCOPE:
The project will not seek to include functionality that would allow a user of the interstitial viewing device to interact, beyond movement, with the game environment and/or other game players. Furthermore, there will be no additional user interface elements, beyond the movement of the device, that will serve to update the player’s position in the game.

The software needed to power the viewer will not use other device features or interfaces, such as sound output, camera or touch-screen interface, unless that feature is required for generating a current view of the game world from the perspective of the player.

PROJECT TRADE-OFF MATRIX

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<th>Resources:</th>
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<td>Scope:</td>
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Select a different flexibility letter for each constraint. Use each letter only once.

DELIVERABLES:

The following deliverables are required for successful project completion (not in order):

1. Software (including source code)
2. User manual
3. Deployment guide
4. Project reports (weekly), including minutes of project meetings
5. Requirements documents (for client’s records)
6. Design documents (for client’s records)
7. Presentation (including software demo)
MILESTONES:

Throughout our project we feel that adequate checkpoints to evaluate our progress could be:

1. Project plan document
2. Design document
3. Prototype 1: Throwaway
4. Prototype 2: Implementation
5. Final Project document
6. Description and demo of our project

BACKGROUND:

The primary motivation of this project is to add the feature of an interstitial viewer to an already functional game called L'Or de L'Acadie. In order to accomplish this task we are being provided the source code for L'Or de L'Acadie from our client and our job is to integrate our add-on into the existing software. This game was created using an open source toolkit called Open Wonderland which allows users to create their own virtual worlds.

For our current situation our client has given us the task of creating an add-on that essentially allows the actual user and virtual avatar to move in sync. For example, if the user was to walk 20 meters to the west then the virtual avatar would do the same. The only stipulations our client gave us were to provide an enjoyable user experience and, if possible, it should be portable for outdoor usage. For our desired situation we would like to create a functional interstitial viewer using either an Android or an iOS device such as an iPad where we can utilize certain features such as the build in GPS. However, because our project is still in early development we have yet to decide which platform we will use to create our interstitial viewer but plan on making a final decision very soon after weighing the pros and cons of each device.

APPROACH:

To tackle this project, we will first research any remote open wonderland viewers that may have been written for iOS or Android devices. Our next step will be to create an application for our chosen to device that will allow us to access the device’s environmental monitors (such as its GPS and compass) and pass this information to a client computer that is logged in to open wonderland. A server side program will allow us to interpret this data and transform it into game controls to move the virtual player around the space. Our last step will be to combine these two applications to create an interstitial viewer.

Some Initial investigation will have to be conducted to decide if the project should be done with iOS or Android.

BENEFITS:

Our customer benefits are:

1. Comply to the customer's mandate
2. Improved service allowing a more in-depth and creative user experience
3. A broadened audience which includes those with special needs. (E.g.: customers that have disabilities keeping them from using a standard mouse and keyboard)
SUCCESSFUL COMPLETION CRITERIA:

In order for this project to be successful, our final product must be:

1. A complete piece (or pieces) of software.
2. Able to remotely control a player in Or De L'acadie using a handheld device's environmental sensors.
3. Allow the user to view the world in real time (or close to depending on networking constraints) on their handheld device.
4. Stable and simple enough to allow an enjoyable experience for a user who has never touched computer code or the game before.

DEPENDENT PROJECTS:

This project is being built on developed software and can be started right away. The software that this project requires is the source code from the game Or D'Acadian and the open source software from openwonderland.org. For this project to be developed on the iPhone or iPad it also requires software that can communicate between the main game and the device.

This project is an add-on to the original game. Therefore nothing depends on this project and it is very unlikely that another project will build on this.

PROJECT RISKS:

One of the highest project risks is the technology that it depends on. For the project to be effective it requires accurate use of GPS (or another tracking) technology in order to distinguish where we are on a small playing field. A GPS which can be off by about half a meter may ruin the game experience. Another problem may be the cross platforms of iOS programs not effectively communicate with the openwonderland software. However if this is the case, technical solutions or workarounds can be employed but these may have unforeseen flaw in themselves which would put the project at risk. Finally the project must be able to work in the final environment it is designed for. If the project is being deployed in a place that interferes with the tracking technology or the equipment is not durable enough to withstand the conditions, this will also put the project to a halt.

The strict scheduled may also bring up some problems. The project needs to be completed by the scheduled deadline, and this may create problems if there are any last minute changes. Also when group begins scripting the project we may realize that there may not be enough time to code all of the functionality required in the given timeline. This also means that any changes to the personnel on the project could put it at risk because there would not be enough time to train someone new and all members are needed to complete this project in time.

Finally any miscommunication in the project details between client and among the creators could also put the project at risk. Misunderstanding the priority of the project is a big concern. For example secondary features may become the group’s primary concerns, and the priorities the client was looking for are flawed in way that ruins the game experience. This may also lead to the project not fitting into the overall game. This could be either technically, as in the protocols do not match the game, or as in it doesn't make sense to put it into the game.
ASSUMPTIONS and CONSTRAINTS:
Before beginning this project we are assuming that the Open Wonderland and other used frameworks work well with minimal errors. However, we do anticipate some difficulties implementing a mobile device to the existing frameworks.

The biggest constraint that this project will face will be time and team members academic workload. Dedicating enough time for successful completion and fixing any existing bugs or bugs we introduce.

RESOURCES:

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<thead>
<tr>
<th>Project Team Members</th>
<th>Team Role</th>
<th>Number of Hours Required</th>
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<tbody>
<tr>
<td>Benjamin DeCoste</td>
<td>Project Management, Developer</td>
<td>10</td>
</tr>
<tr>
<td>Travis Roberts</td>
<td>Lead Developer</td>
<td>10</td>
</tr>
<tr>
<td>Karl Leuschen</td>
<td>QA, Testing, Developer</td>
<td>10</td>
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<tr>
<td>Bret Schofield</td>
<td>User Experience, Developer</td>
<td>10</td>
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<tr>
<td>Jayde Fanjoy</td>
<td>Networking, Developer</td>
<td>10</td>
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BUDGET:
Initial Budget: $ 0.00  
Ongoing Costs: $ 0.00  

EQUIPMENT REQUIRED:
Android Device
iPhone
iPad
Computers for development
Server