

Redefining the Use of Augmented Reality

User Profiles & Application Descriptions

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0.0 Version History

VERSION 1.0

Version 1.0 is the original version of the User Profiles & Application Descriptions Document. This version of the document was created as part of Sprint Zero: Development Setup.

1.0 Introduction

Luminary Promotions have requested two Unity plugins to be created, as described in the Requirements Specification (Version 1.1) and Project Plan (Version 4.0). The plugins will be used as part of Luminary's development of a Platform Application.

The plugins have a range of features which enable a GPS-based augmented reality application to be produced. A Testing Application (see 3.1) will be produced to verify the functionality of the Unity plugins. The Testing Application will only be used by Luminary's designated Platform Developer and will not be used by the System Administrator or Platform User.

Development of the Platform Application exceeds the scope of the LuminAR project. Development of this application is Luminary's responsibility, though it will use the same Unity plugins as the Testing Application. The Testing Application is, therefore, a proof-of-concept only.

2.0 User Profiles



2.1 Platform User

The Platform User will access the Unity plugins through the Platform Application. The Platform User must be able to download/stream AR content and view the content through the application.

2.2 System Administrator

The system administrator will modify the GPS markers and AR content. They will add, remove and modify GPS markers, 2D sprites and 3D models. The administrator requires an interface to make the changes. The changes will be actioned by the Unity plugins in the Platform Application.

2.3 System Developer

The System Developer is the sole user of the Testing Application. The System Developer will use the Testing Application to ensure the functionality of the Unity plugins. The System Developer will develop the Platform Application following delivery of the Testing Application and Unity plugins.

2.4 Luminary's Clientele

Luminary's Clientele will request for AR content and GPS markers to be added to, modified and removed from the Information Server. The System Administrator will perform these changes on the client's behalf.

3.0 Application Descriptions

3.1 Testing Application

The Testing Application will be developed as part of the LuminAR project. The Testing Application will allow the LuminAR group and Luminary to ensure the functionality of the Unity plugins. Luminary will reference the code used in the Testing Application when developing the Platform Application. The Testing Application will act as a proof-of-concept of the functionality of the Unity plugins.

The Unity plugins will be used by the Testing Application to:

- Retrieve the testing device's location updates.
- Display the current location in plaintext.
- Establish a connection with a test remote information server.
- Load a set of test nodes from the remote database.
- · Add the loaded nodes to a locally stored SQLite database.
- Determine the distance of a node from the testing device's current location.
- Determine the direction (heading) of a node from the testing device's current location.
- Display a list of locally stored nodes.
- Filter nodes by a given distance parameter.
- Display a list of the nodes within a given distance parameter.
- Make changes to locally stored nodes.
- Remove locally stored nodes.
- · Insert a new node into the local database.
- Retrieve the device's true north heading updates.
- · Display the device's true north heading in plaintext.
- Maintain a debug log.



3.2 Platform Application

The Platform Application is the final end-user application used by the Platform User. Luminary will use the plugins created to develop the Platform Application, following the completion of the LuminAR project.

The Unity plugins will be used by the Platform Application to:

- Retrieve the Platform User's location updates.
- Establish a connection to Luminary's remote information server.
- Load the set of nodes from the Luminary's remote database.
- Add the loaded nodes to a locally stored SQLite database.
- Determine the distance of a node from the Platform User's current location.
- Determine the direction (heading) of a node from the Platform User's current location.
- Generate a list of the nodes from the local database that are within a 5 km radius of the current location.
- Monitor the device's true north heading.
- Stream content from Luminary's information server.