Arabianranta project documentation 1.0

Kuninkaansaari: 3D and Augmented Reality Project

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# Versions

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| --- | --- | --- | --- |
| Versions | Last modified | By | Contact |
| 1.0 (Prototype) | 14/01/2013 | Carolina Rodríguez Torres | carolina.rodrigueztorres@metropolia.fi |
|  |  |  |  |

# Brief introduction

The administrator site is hosted in Amazon.

After creating an instance through ElasticFox tool, to connect to it, WinSCP and PuTTY have been used.

Administrator site is the backend of an augmented reality application. It is hosting the needed 3d model files and metadata about each model. The administrator page is an interface to edit, remove or add new models to the database.

# User stories

There are two user groups: administrator and mobile client.

## Administrator

The administrator has the access to the admin site in order to add new content and update or delete the existing one.

* Administrator can download the administrator user guide instructions.
* Administrator can add a new 3D model.
  + Administrator fills a form with the following data:
    - Name of model
    - Description of model
    - Upload model file (zip) \*see the administrator guide for requirements
* Administrator can remove an existing 3D model.
* Administrator can edit an existing 3D model.
  + Administrator can change:
    - Name of model
    - Description of model
    - Upload another 3D model file (zip) \*see the administrator guide

## Mobile client

The mobile client downloads the application online and then he can browse content offline.

Jim is currently visiting Finland, he heard that Kuninkaansaari is the place where Finnish people lived in the old days. He always wanted to know how everything worked in the ancient days. Luckily, He found out an android app that can immerse the user with the old scene. So before he goes to the place, he downloaded the app and corresponding 3d models onto his cell phone. When he arrived at the spot(supposed he was at the center of the "square"), he opened the app and saw a hut on( a 3d model ) the phone, when he changes the orientation of his phone, the view rendered on his phone changes accordingly. He then moved closer to check the detail of the scene.

\*Revise the mobile application documentation

# 3D modeling designer

Specifications from the 3d models’ files (using 3D’s Max):

* Do not use tiled textures, use texture baking method instead.
* Automatic unwrapping is problematic.
* Attach all objects to a single mesh and then run the texture baking.
* Textures files should be 2^n: 256x256 recommended, maximum is 1024x1024

Check more specifications in junaio webpage (notice that there is a built-in application and that some specifications may not be necessary): <http://www.junaio.com/develop/docs/documenation/general/3dmodels/> \*junaio is based in metaio

To check that the final 3d model outcome will work in the application –based in metaio technology-, it is possible to use the metaioCreator. There are two setup files in documentation folder. Or download the last version: <http://www.metaio.com/products/creator/>

# C:\Users\Karol\Documents\_WORK\3Dproject\__docs_3Dproject\Architecture.pngArchitecture: general overview

The architecture is represented in the following drawing:

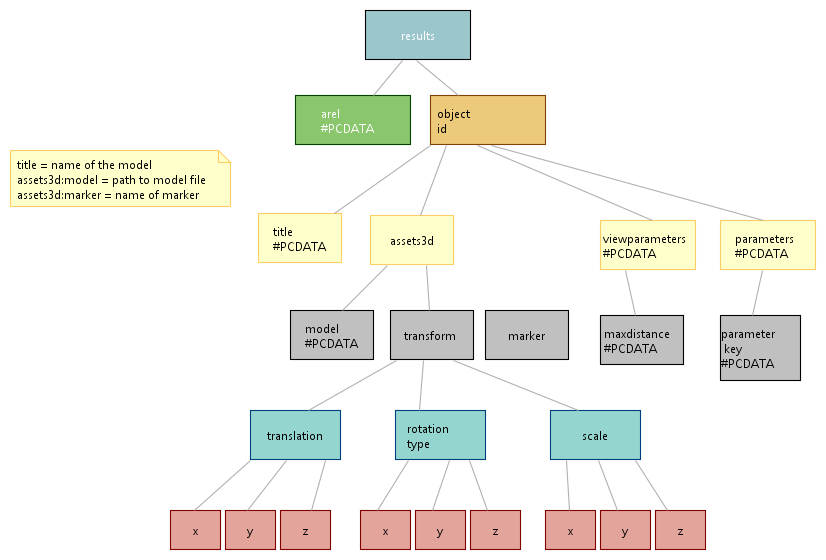
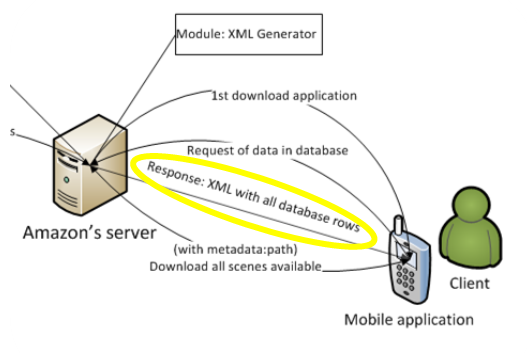
# PHP modules in administrator server

The Amazon server has two modules.

## Administrator

The administrator module can edit, update, create and delete rows from database.

## XML generator

The XML generator module responds to the request of mobile client (request of all the models information available in the database). The response is an XML containing all the POIs. Its structure is described in the following diagram and the .ecore files diagrams are included in the documentation folder. (Open in Eclipse for example)

# Database

Database is accessed with the following credentials:

* Username: root
* Password: 3dadmin
* At this page: <http://54.247.2.103/phpmyadmin/>
* Database name: ‘poi’

The access to the database is granted also to 3duser at any local host (%). Privileges of 3d user are: SELECT, INSERT, UPDATE, DELETE. Root has of course ALL PRIVILEGES.

Type of database is ‘InnoDB’ and encoding is ‘latin1\_swedish\_ci’. The database consists of one table ‘tbl\_3d’ and 7 columns. The only primary key is ‘id\_num’.



# WinSCP or PuTTY practicalities

For developing in localhost extract page.zip to xampp (or any other of your convenience). It should be located directly in the localhost: C:/xampp/htdocs/page (otherwise it does not work).

Hostname: 54.247.2.103

Username: root

Password: 3dproject

For SSH authentication in PuTTY it will be necessary the private key file, included in the documentation. 

# Future implementation in the administrator site

## Authentication

1. Login as administrator (security reasons)

## Home page related

1. If the database is empty, in index.php display the form of creating a new 3d model.
2. When adding a new model, if the information is not complete, save as draft. \*
3. In order that is easier to develop, change references that somehow use /page/ so it can be easily changed (regarding versions: 3dadminpage1.0 // 3adminpage1.1 // 3adminpage2.0…)

## Database related

1. Create a column in table (database) to differentiate:
   * 1. marker based models
     2. location based models
   1. OR directly, separate marker and location based models in two different tables:
      1. marker based models table
      2. location based models table
   2. common features of models table
2. \*Also if exists draft, there should be a column (is\_ready, for example), options: Boolean
   1. yes if the row is ready –all fields-
   2. no if there is something missing
3. (This would be in order that not everything is send to mobile client (in the XML), only the ones that have ready: yes)

## Optimize disk-storage

1. If there is an existing marker file or model file -check first in markers/ and objects/ folders-
2. If remove one 3d model (whole row), delete also the zip and the marker file, respectively in markers/ and objects/ folders.