|  |
| --- |
| Martin Rule, Lane Cotgove, James Bayliss |
| Motion Project |
| Feature List v1.2 |

|  |
| --- |
| Martin Rule  7/25/2012 |

Table of Contents

[1. Feature List team 2](#_Toc331092174)

[2. Features list 3](#_Toc331092175)

[2.1 Domain #1 Kinect Client 3](#_Toc331092176)

[2.2 Domain #2 3D Client 4](#_Toc331092177)

[2.3 Domain #3 Servers 5](#_Toc331092178)

[3. Internal and external assessment 6](#_Toc331092179)

## 1. Feature List team

The feature list is developed by many of the same team involved with developing the overall model.

Martin Rule - Project Manager  
Lane Cotgrove - Lead developer  
James Bayliss - Developer

## 2. Features list

These are the features we will develop in the process of this project. They are in the format <action><result><object>. It is expected that each of these features will require less than two weeks to be completed and promoted to the current build.

## 2.1 Subject area #1 Kinect Client

|  |  |  |
| --- | --- | --- |
| **<Action>** | **<Result>** | **<object>** |
| Connect | Kinect client | To device |
| Transform | Movement data | From data in memory |
| Create | Connection | To server |
| Push | Movement data | To all connected servers |

**1.1 Connect Kinect client to device**  
Information needs to be pulled from the Kinect device  
1. Movement data must be retrieved using Kinect API  
2. Movement data must be stored in local memory for future use

**1.2 Transform movement Data from data in memory**Information needs to be transformed in a meaningful way  
1. Movement data must be retrieved from local memory  
2. Movement data must be transformed to a pre-defined format  
3. Movement data must be stored back into local memory

**1.3 Create connection to server**  
Client needs to connect with servers  
1. Client must be set up for networking  
2. Connection settings must be located  
3. Connection must be established  
4. Connection must be tested

**1.4 Push movement data to all connected servers**  
Information needs to be sent to server  
1. Client must have existing connection to server  
2. Connection must be tested  
3. Transformed movement data must be sent to server

## 2.2 Subject area #2 3D Client

|  |  |  |
| --- | --- | --- |
| <Action> | <Result> | <Object> |
| Create | Connection | To server |
| Pull | Movement data | From server |
| Transform | Movement data | From stored data |
| Display | 3D environment | Using avateering |
| Display | Avatar | From raw data |

**2.1 Create connection to server**  
Client needs to connect to servers  
1. Client must be set up for networking  
2. Connection settings must be located  
3. Connection must be established  
4. Connection must be tested

**2.2 Pull movement data from server**  
Client needs to be able to pull relevant information from the servers  
1. Client must have existing connection to server  
2. Connection must be tested  
3. Request for movement data must be sent  
4. Listener must be established for new movement data  
5. Movement data must be stored in local memory

**2.3 Transform movement data from stored data**  
Client needs to be able to interpret and use data pulled from servers  
1. Most relevant movement data must be located in local memory  
2. Movement data must be reconstructed into a suitable format  
3. Reconstructed movement data must be stored in local memory

**2.4 Display 3D environment using Avateering**  
3D environment must be started to facilitate the display of movement Data  
1. Settings must be located for 3D environment  
2. 3D environment must be initialised  
3. 3D environment must start render loop

**2.5 Display avatar from raw data**  
Display reconstructed movement data on 3D avatar  
1. Reconstructed movement data must be located  
2. Movement data must be used to update avatar using Avateering API

## 2.3 Subject area #3 Servers

|  |  |  |
| --- | --- | --- |
| <Action> | <Result> | <Object> |
| Initialise | New server | From setup files |
| Allow | Client registration | With Server |
| Collect | Movement data | Received from clients |
| Store | Movement data | Received from clients |
| Process | Movement data | Requests |

**3.1 Initialise new server from setup files**  
Ability to run in a predictable fashion including the setup of database and listeners  
2. Server must be setup using specific settings  
3. Server must check if database already exists  
4. If no database exists then one must be set up  
5. Server must start listening for incoming connections

**3.2 Allow client registration with server**  
Ability to register new clients  
1. Server needs to recognise new client  
2. Server needs to listen for registration information  
3. Registration information must be used to verify client  
4. Server must listen for new commands from registered client

**3.3 Collect movement data received from clients**  
Server needs to be able to collect pushed data from clients  
1. Server must hear new command from register client  
2. Command must be processed  
3. If command is new movement data  
4. Then movement data must be sent to database processes

**3.4 Store movement data received from clients**  
Server needs to be able to store collected data for later use  
1. If collect movement data is successful then database must receive movement data  
2. Movement data must be stored in database in meaningful way  
3. Database must confirm movement data is stored.

**3.5 Process movement data requests**  
Server needs to be able to pull relevant data and give that data to clients  
1. Server must hear new command from registered client  
2. Command must be processed  
3. If command is a request for movement data  
4. Request must be made to database processes for next movement data section in queue  
5. Movement data retrieved must be pushed to registered client

## 3. Internal and external assessment

This document was assessed by Martin Rule, Lane Cotgrove and James Bayliss on the 26th July 2012

This document was assessed by Andrew Eales on 16th August 2012

## 4. References

Dawson, C. W. (2009). *Projects in Computing and Information Systems, A Student’s Guide*. Harlow, England: Pearson Education Limited.

Palmer, S. R. & Felsing, J. M. (2002). *A practical Guide to Feature Driven Development*. Upple Saddle River, NJ: Prentice-Hall.