**Testing & Integration Plan**

Fotoball

Version 1.0

Prepared by

Rick Rejeleene, David Cipoletta, AbrAhAm Herrera, Adam Jilling

Table of Contents

For Reference (Delete this after we finish) 4

1.0 Introduction 5

1.1 Purpose 5

1.2 Scope 5

2.0 Modular 5

2.1 Validation Requirements 6

2.1.1 Validation Requirements 6

2.2 User Interface Requirements 6

2.2.1- User Interface – GUI 6

2.2.2 User Interface – To Allow authorized individuals to view the Fotoball 7

2.3 Performance Requirements 7

2.3.1 – Performance Requirements – Booting up/ live stream authentication 7

2.3.2- Performance Requirements – Accessing video and live streaming it back to the application 7

2.4 User Platform Requirements 8

2.4.1 Test User Platform Requirements 8

2.5 Fotoball Device Access requirements 9

2.5.1 Test Fotoball Device Access requirements- full name 9

2.5.2 Test User Account Requirements - Login name 10

2.5.3 Test User Account Requirements - Password 10

2.5.4 Test User Account Requirements - Registered Fotoball 10

2.6 Account Requirements 11

2.6.1 Test account login 11

2.6.2 Test account registration 12

2.6.4 Test account updates 12

2.7 Hardware Requirements 13

2.7.1 Hardware Test 13

2.8 Database Requirements 13

2.8.1– User information fields test scenario 14

3.0 System Integration 14

3.1.1– Integration Phase -1 – Testing system components independently 14

3.2.1– Integration Phase -2 – Database and Communication 15

3.3.1– Integration Phase -3 Functionality and Performance 15

3.4.1– Integration Phase -4 –Complete system Integration software and hardware 16

4.0 Testing Schedule 16

# For Reference (Delete this after we finish):Screenshots:Screen Shot 2015-04-08 at 12.09.44 PM.png

# :Screenshots:Screen Shot 2015-04-08 at 12.09.52 PM.png

# 1.0 Introduction

**1.1 Purpose** - The main purpose of the system integration and testing is to validate the hardware and software.

This is to make sure the product released is ready to be used by the public. The Integration phase includes test cases for each module.

**1.2 Scope** - The integration testing routines follow the “White Box” approach to test and integrate the software. The white box approach will help us to understand the behavior of each module and to build quality software. Integration is carried on a modular approach.

# 2.0 Modular

## 2.1 Validation Requirements

2.1.1 Validation Requirements

|  |  |
| --- | --- |
| Requirement Number | 2.1 |
| Requirement Name | Validation Requirements |
| Requirement Description |  |
| Pre-conditions |  |
| Procedures |  |
| Post Conditions | The system will return the message: user the validation is completed. |
| Test Results | PASS/FAIL |

## 2.2 User Interface Requirements

### 2.2.1- User Interface – GUI

|  |  |
| --- | --- |
| Requirement Number | 2.21 |
| Requirement Name | User Interface – GUI for Fotoball |
| Requirement Description | All users can access the GUI for Fotoball |
| Pre-conditions | The user must have the application installed in the phone. |
| Procedures | 1. Using your mobile device, locate the fotoball application 2. Click on the application 3. The user will be see the Main fotoball screen. |
| Post Conditions | The Fotoball GUI can be controlled by the user |
| Test Results | PASS |

### 2.2.2 User Interface – To Allow authorized individuals to view the Fotoball

|  |  |
| --- | --- |
| Requirement Number | 2.22 |
| Requirement Name | User Interface |
| Requirement Description | Allow authorizing individuals to live stream from fotoball |
| Pre-conditions | The user must be logged into the system. |
| Procedures | 1. On the Main screen, click activate ball. 2. Now the user will be asked for the required fotoball details 3. Enter the details and proceed |
| Post Conditions | The system will display a message that confirms the fotoball access and live stream |
| Test Results | PASS |

## 2.3 Performance Requirements (I think we should have this section after the User Platform and Fotoball Device Access requirements sections - update requirement numbers if sections are moved)

### 2.3.1 – Performance Requirements – Booting up/ live stream authentication

|  |  |
| --- | --- |
| Requirement Number | 2.31 |
| Requirement Name | Performance Requirements – Booting up and Live stream authentication |
| Requirement Description | Users will be able to boot into the hardware through fotoball application and access the live stream. |
| Pre-conditions | User must have the required access details for fotoball.  Measuring it using a chronograph |
| Procedures | 1. Open the application 2. Click on the activate ball 3. Enter the required fotoball authentication 4. Click on submit   (<5 seconds) |
| Post Conditions | The system will verify the details and show the live stream from fotoball device |
| Test Results | PASS |

### 2.3.2- Performance Requirements – Accessing video and live streaming it back to the application

|  |  |
| --- | --- |
| Requirement Number | 2.32 |
| Requirement Name | Performance Requirements – Accessing video and live streaming it back to the application. |
| Requirement Description | The User will be able to access the video and live stream it from the fotoball hardware into the application. |
| Pre-conditions | User must have the fotoball hardware and authentication requirements for accessing live stream.  Have a time measurements device available. (chronometer) |
| Procedures | 1. Open the application in mobile device 2. Click on the activate ball option 3. Using your chronometer, be ready for calculating the performance 4. Enter the required fotoball authentication and click submit 5. Start the chronometer simultaneously when you click submit 6. Measure the time taken from accessing the live stream to the application   (It should be less than 5 seconds) |
| Post Conditions | The System will be in live feed window |
| Test Results | PASS |

## 

## 2.4 User Platform Requirements

### 2.4.1 Test User Platform Requirements

|  |  |
| --- | --- |
| Requirement Number | 2.41 |
| Requirement Name | User Platform Requirements |
| Requirement Description | The User platform is to be tested by using a device with \_\_\_\_ (Adam, Is it iOS or Android?) |
| Pre-conditions | The User needs a Device with an Android Operating System or iOS Operating System |
| Procedures | 1. Find an android device or iOS device. 2. Verify that it is running Android version \_\_(Adam) or iOS 7 or above 3. Connect the Device to the System. 4. Install the application (Adam, from AppStore? Or through an application, I found Intel XDK online, it’s a quick way to build an application, please have a look. If we include that we can use build from Intel XDK to install the application) |
| Post Conditions | * If the Application is successfully installed, it will open. * If the Application is not successfully installed, it will prompt the user “Application installation failed” |
| Test Results | Pass if all the Post Conditions are met. |

## 

## 2.5 Fotoball Device Access requirements

### 2.5.1 Test Fotoball Device Access requirements- full name

|  |  |
| --- | --- |
| Requirement Number | 2.51 |
| Requirement Name | Fotoball Device Access requirements |
| Requirement Description | The Fotoball device will contain specific name and IP address to access it. The user will need to know the details of the fotoball to access it |
| Pre conditions | The User needs to be in Main page |
| Procedures | 1. Enter the Name 2. Enter the IP Address. 3. Enter the valid information(Adam, I am confused what else we need for this, Please check) 4. Click Submit after entering the above information. |
| Post Conditions | The User will access the fotoball live stream if all the information matches it. |
| Test Results | Pass if all the Post Conditions are True. |

## 

I am not sure if we include user name and password? Please remove it if we are not going to include it (Abraham, Adam)

I think we can include username, password and ip address? Or only IP address? How about Port number?

### 2.5.2 Test User Account Requirements - Login name

|  |  |
| --- | --- |
| Requirement Number | 2.52 |
| Requirement Name | User Account Requirements – Login name |
| Requirement Description | The User account form needs to be verified for testing, the login name is tested here. |
| Pre conditions | The User needs to be in the User Information Page. |
| Procedures | 1. Enter the Login ID 2. Enter the valid information for the rest of the form. 3. Click Submit after entering all the above Information |
| Post Conditions | * If the Login ID is empty, the user information page will not submit * If the Login ID is greater than 10 characters, the user information page will not submit. |
| Test Results | Pass if all the Post conditions are True |

### 2.5.3 Test User Account Requirements - Password

|  |  |
| --- | --- |
| Requirement Number | 2.53 |
| Requirement Name | User Account Requirements – Password |
| Requirement Description | The User account form contains a password and the password field is tested here. |
| Pre conditions | The User needs to be in the User Information Page. |
| Procedures | 1. Enter the Password 2. Enter the valid information for the rest of the form. 3. Click Submit after entering all the above information. |
| Post Conditions | * The Page will not submit if the Password is empty * The Page will submit if the Password is not empty. |
| Test Results | Pass if all the Post conditions are True |

### 2.5.4 Test User Account Requirements - Registered Fotoball

|  |  |
| --- | --- |
| Requirement Number | 2.54 |
| Requirement Name | User Account Requirements – Registered Fotoball |
| Requirement Description | The User account contains registered fotoball device. |
| Pre conditions | The User needs to be in the Main menu and add a fotoball device to their account |
| Procedures | * The User needs to fill valid information for the rest of the form to register the fotoball device |
| Post Conditions | * The Default User is assigned to a fotoball device (Adam?) |
| Test Results | Pass if all the Post conditions are True |

Adam, are we going to have an account? Please remove it if we are not going to have one.

(also remove section/line from testing schedule)

## 2.6 Account Requirements

### 2.6.1 Test account login

|  |  |
| --- | --- |
| Requirement Number | 2.61 |
| Requirement Name | Account Requirements |
| Requirement Description | Allow the user to log into the service with account credentials |
| Pre-conditions | User has a valid account (username and password) on the system |
| Procedures | * Open the application * Click Activate Ball * Enter the valid information in order to access the fotoball |
| Post Conditions | The application access the registered fotoball if the user is registered |
| Test Results | PASS if post conditions are true,  FAIL if the user is not registered or enters wrong information |

### 2.6.2 Test account registration

|  |  |
| --- | --- |
| Requirement Number | 2.62 |
| Requirement Name | Account Requirements |
| Requirement Description | Allow the user create a new account in the application |
| Pre-conditions | NONE |
| Procedures | Open the application  Click on Add Ball  Enter the valid information in the form  Click submit |
| Post Conditions | If password does not meet the requirements (is not between 1 and 20 alphanumeric characters), an alert is displayed requesting the password be modified to meet the password requirements.  If username does not meet the requirements (is not between 1 and 10 alphanumeric characters), an alert is displayed requesting the username be modified to meet the username requirements.  If the username already exists in the system, an alert is displayed requesting another valid username be chosen.  If username and passwords meet the requirements and username does not already exist in the system, an alert is displayed stating “success” and application proceeds to Workouts page |
| Test Results | PASS only if all post conditions are true,  FAIL otherwise. |

How do we update? (Adam, Abraham)

If we do, what are the fields we can update?

### 2.6.4 Test account updates

|  |  |
| --- | --- |
| Requirement Number |  |
| Requirement Name | Account Requirements |
| Requirement Description | Update user account information when user is logged into the system |
| Pre-conditions |  |
| Procedures | N/A |
| Post Conditions | N/A |
| Test Results | PASS if all tests referenced in pre-conditions PASS, otherwise FAIL. |

## 2.7 Hardware Requirements

### 2.7.1 Hardware Test

|  |  |
| --- | --- |
| Requirement Number |  |
| Requirement Name |  |
| Requirement Description |  |
| Pre-conditions |  |
| Procedures |  |
| Post Conditions |  |
| Test Results | PASS only if all post conditions are true,  FAIL otherwise. |

## 2.8 Database Requirements

I am not sure what we are using in our system, this should be simple (Adam)

If we let the user update his information (Adam, Abraham?) It is a good idea to allow the user to update his information but maybe for future releases.

### 2.8.1 User information fields test scenario

|  |  |
| --- | --- |
| Requirement Number |  |
| Requirement Name | Database Interface |
| Requirements Description | Users shall have access to input information into Use profile information fields |
| Pre conditions |  |
| Procedures |  |
| Post Conditions | PASS only if all post conditions are true,  FAIL otherwise. |
| Test Results | PASS |

## 3.0 System Integration

### 3.1.1 Integration Phase -1 – Testing system components independently

The first step of system integration plan will consist of making sure each one of the system components are working as given in the requirement specification. This consists of making sure the hardware and software are thoroughly testing and integrated. In the Fotoball Application, the main system components is fully operational and tested independently before trying to integrate or try to test any interaction with any of the other mayor system components. The phase-1 will validate the system have all the necessary components to start with a formal system integration. The integration phase will include, testing the application, hardware and the database independently

**Phase 1 Integration Testing:**

* Testing the application installation
* Testing GUI and classes that don’t have dependencies
* Testing the hardware to make sure it is working
* Testing database installation and finding tables are created.

### 3.2.1– Integration Phase -2 – Database and Communication

The Phase 2 of the system integration will consist of integrating the database system with the application. As part of this phase, we will test the communications interfaces. In addition, this phase includes testing the functionality and the interaction between the server and the application

**Phase 2 Integration Testing:**

* Testing Wireless communication between the application and hardware
* Testing Server

### 3.3.1– Integration Phase -3 Functionality and Performance

The Phase 3 of the system integration will consist of testing the functionality of integrated modules and performance. As a part of this test, we will conduct the performance test of the live stream from the hardware to the system GUI.

**Phase 3 Integration Test**

* Testing Functionality
* Testing Performance

### 3.4.1– Integration Phase -4 –Complete system Integration software and hardware

The Phase 4 of the system integration will test and integrate all the system components as a one whole system. This will include testing both the hardware and software component together

**Phase 4 Integration Test**

* Testing Wireless in between all system simultaneously (Hardware/Software)
* Testing client to database request
* Testing database to fotoball
* Testing system performance requirements.

# 4.0 Testing Schedule

|  |  |
| --- | --- |
| Test Schedule ID: | FbT-0001 |
| Product ID / Name: | Fotoball |
| Product Version: | v1.0 |
| Created On: | Document created on April 01, 2015 |
| Review On: | Document reviewed on April 08, 2015 |
| Review By: | Cipoletta, David  Herrera, AbrAhAm Jilling, Adam Rejeleene, Rick |
| Current Status: | Test & Integration Plan In Progress |

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Step** | **Start Date** | **End Date** | **Responsibility / Comments** |
| 1. Hardware Requirements | Jan 29, 2015 | Feb 19, 2015 |  |
| 2. Fotoball Device Access requirements | Feb 23, 2015 | Feb 26, 2015 |  |
| 2.1 Account Authentication | Feb 23, 2015 | Feb 26, 2015 |  |
| 3. User Interface | Mar 02, 2015 | Mar 05, 2015 |  |
| 3.1 GUI installation | Mar 02, 2015 | Mar 05, 2015 |  |
| 3.2 Login access | Mar 02, 2015 | Mar 05, 2015 |  |
| 4. Database Requirements | Mar 09, 2015 | Mar 12, 2015 |  |
| 5. Performance Requirements | Mar 23, 2015 | Mar 26, 2015 |  |
| 5.1 Live Streaming Authentication Performance | Mar 23, 2015 | Mar 26, 2015 |  |
| 5.2 Live Streaming Performance | Mar 23, 2015 | Mar 26, 2015 |  |
| 6. System Integration | Mar 30, 2015 | Apr 02, 2015 |  |
| 6.1 Testing system components independently | Mar 30, 2015 | Apr 02, 2015 |  |
| 6.2 Database and Communication | Mar 30, 2015 | Apr 02, 2015 |  |
| 6.3 Functionality and Performance | Mar 30, 2015 | Apr 02, 2015 |  |
| 6.4 Complete system Integration software and hardware | Mar 30, 2015 | Apr 02, 2015 |  |
| Prepare Final Test Report | Apr 09, 2015 | Apr 13, 2015 |  |
| Review / Approve the Final Test Report | Apr 13, 2015 | Apr 16, 2015 | Final test will be performed a week prior the last day of class |
| **Test Step** | **Start Date** | **End Date** | **Responsibility / Comments** |