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Full Title

Technical Report

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Executive Summary

Maximum 300 words. The abstract should mention the problem being addressed, describe the technical solution, and briefly report the findings of the evaluation.

This project consists of developing a web application for a scouting system for young footballers in Ireland. This system will give an opportunity to every kid in Ireland that dreams of playing regular first-class football to keep their dream alive. This system consists of different users such as clubs, scouts, and players.

The development of this application will be very important as the big targets of this application are the scouts because without them these young talented footballers will have less chances of making their dream come through therefore I will need as many scouts as possible to create their own scout account as this will give them the opportunity to see all the young talented players across the country.

The security of this application is extremely important in this project as this application will require sensitive information such as passwords and registration numbers. It is crucial that the system is very secured and also make sure that this is done through user sessions and secure user passwords and registration numbers for certain users such clubs registration number and scout registration number. Passwords are most important and most sensitive information, so I made sure whatever database used to keep this piece of information is secured and the password are encrypted using PHP default encryption. Users will have the ability to edit their profiles for example a club's profile consists of players information and a club will be able to edit players details such as names, positions, and their statistic. There are a lot things each user can edit on their profile as this application is flexible enough to make your profile unique. The application allows users to follow each other just like on Instagram and Facebook and they can also comment and like posts that are publish on the platform. Once every user makes an adjustment to profile whether edit their name, follow another user, commented, or liked an users post all of this is automatically saved

in the database and will remain the same for other users to see all the actions taken.

1 Introduction

The aim for this document is to give all the technical details of the web application I developed for ScoutMe. This application will provide different users and different features which will be described in this document.

1.1 Background

Why?

Developing this application is almost like a dream come through. I always dreamt of creating something like this to help the younger generation who have the same dream I had when I was their age. Because we live in a country that is still developing the culture of football, so much time has gone by and so many talented young fallers dreams have been destroyed. The idea of this concept inspired me since first year of college in 2016. I played the game since I was 5 years and I never made it as a professional footballer which was my childhood dream until I reached the age of 21 when I realised I couldn't make it anymore and knowing why I didn't make it, not being scouted by bigger clubs was a very big part of it and it was nobody's fault but the lack of having scouts to travel here to watch us play whereas other countries are way much advanced. Having all these thoughts made come up with this idea to develop a scouting system where scouts may not need to travel all the time to discover talented players but instead because technology is way advanced today they might as well take advantage of it. The main idea behind this is really to help scouts make their job a lot easier by not having to travel a lot they can register to this system and they will have the ability to view a lot young players profiles with their statistics and also video clips of watching them play. The scout can do all of this without having to leave their bedroom. This may not be the best idea but this would only help those kids in small countries like Ireland who don't get lucky enough to have a large amount of scouts watching them play almost every week like in other countries such as England, Spain, France and lot more.

After narrowing the concept idea after four long years, I kept the idea to myself until I reached the final year of my degree I presented this idea to my assigned supervisor for my project which was supervisor Keith Mayckock who was really impressed by the idea and who helped bring this idea more alive and encouraged me to go ahead with this idea as he said to me “I have small kids and they love football maybe this will benefit them one day”. After I got an approval from supervisor, I decided to talk to some of my old coaches and current ones to see if they would like the idea. Most of the told them if I don’t develop this now someone else will which of course they tried make me understand how this could be a life changing for a lot kids growing up the same dream I had.

1.2 Aims

What?

The aim for this project is to develop a complete system from scratch. This system application will have different linked interfaces which are going to be based of HTML5 which is the fifth and latest version of the HTML standard. This application will allow users to login, create account whenever they whish each user will have to create a strong password that will protect the users activities and accounts. The application will not allow users to have multiple accounts this will be verified by email address and registrations numbers for certain accounts such as clubs and scouts which will be provided when registering. Users can view their profiles and other users profiles if they are following each other they will also have the ability to edit their profile.

1.3 Technologies

How? - Brief description of the technologies used in the project. Do not copy & paste descriptions from websites here but describe what it is and how it contributes to your project.

I used JavaScript, PHP-based stack to implement the backend. As opposed to more traditional technologies JavaScript is a newer one but growing quickly on the server side so I also chose it because of its stellar performance and better scalability. I used PhpMyAdmin and SQL queries to create and display relevant information when required. This application is running through my localhost on my computer and I used XAMPP which is free and open source cross platform web server solution which consists mainly of the Apache HTTP Server, MariaDB database and its interpreted for computer languages such as PHP and Perl programming languages which in this case for this application which I'm using PHP. I used CSS3 to describe the presentation of a document written in Markup language such as HTML5 and a lot more in this case CSS3 was used with HTML5 to format structured content and is responsible for the application font properties, colours, text alignments, graphics, background images. I used jQuery for JavaScript library which helped me to write less code, but certain line of codes would do more work than writing thousands lines of codes. I also used JSON format for data interchange format based on the JavaScript used for this application. All my codes were written in visual studio code which is streamlined code editor. Visual studio made my life so simple as it provides tools a developer needs for a quick code-build-debug cycle.

1.4 Structure

Brief overview of each chapter

Section 1 – Introduction: this section explains the aim of this project and its background while the technologies section explains all the programming languages. The structure explains the structure of this document.

Section 2 – System: this section describes the requirements and features that are implemented in the application. All the use case diagrams show all the features in the project. The non-technical requirements are described in the non-technical requirements section of this document. The architecture of the application is

represented in a class diagram. The GUI (Graphical User Interface) mock-up are used to represent the application features and how a user will be presented with the following features. The testing section basically explains the testing techniques that were used to test the application and gives results to make sure the application is programmed correctly without bugs and errors to give the user the experience possible.

Section 3 – Conclusion: This section basically gives an overall conclusion of this document and the application.

Section 4 – Further Development: this section explains the possibility of the application going further in the future and the upgrades that can be added to make the application be better than any other similar application in the future if there are any.

Section 5 – References: this section shows the information used to complete this document and the application.

Section 6 – Appendix: this section contains a copy of the project proposal, the monthly journals and supervisor meetings.

2 System

2.1 Requirements

This section will be similar to your original requirements specification. Requirements have probably evolved somewhat since. Where this is the case explain what changed and why.

2.1.1 Functional requirements

Requirement 1 <Signup>

How to behave e.g. sign up, login, Post feeds

This system is going to have three different type of users (Clubs, Scouts, and players). These three users should be able to sign in after they've signup they should be able to sign in depending on their user choices they will be sent to the home page and be able to navigate away.

There will be a signup button on top right of the home page and once the user clicks one of the options the user will be taken to a different page where an option to pick either club, scout, or player. I changed this option from the drop-down menu because I thought it would look a lot cleaner as I tried to make this application as simple as possible for users to be able to navigate.

Uploading images this functionality is also going to be very important as every user that will register to the system will need to upload a picture for their profile.

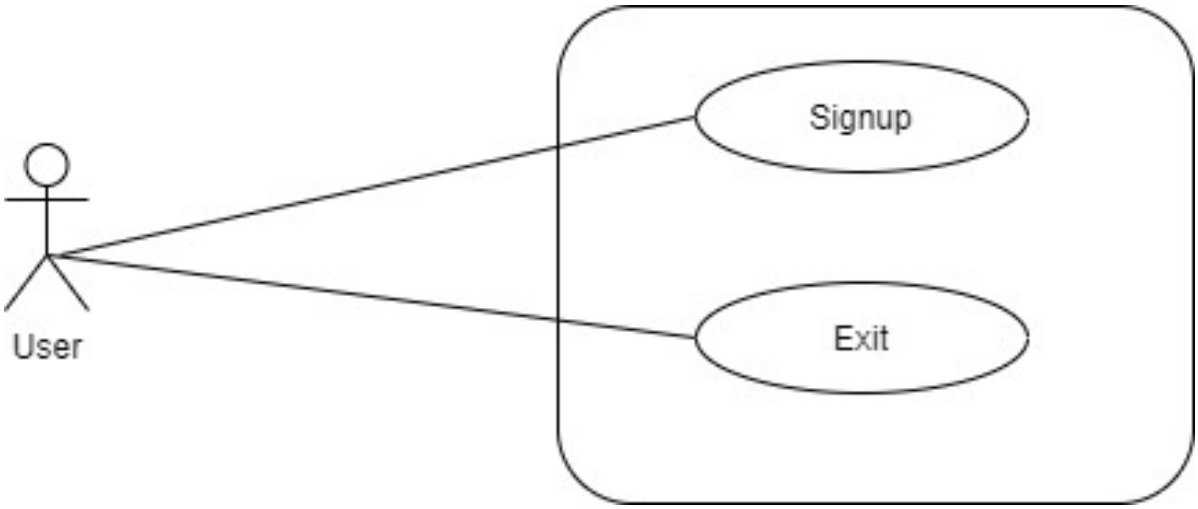
Post: this functionality will allow every user to able drop in comments on players videos or progress.

Once the user completes either one of the above functionalities MySQL database will store all the user information.

The priority of this use is high as the user will always need an account to use the application service.

Use case

Figure 1 Signup use case



Detailed Use Case Description (figure 1)

Name: Signup Use Case

Description: This use case describes the Signup process

Flow of Events:

Activation: Use case begins when the user clicks on the ‘Signup’ button

Main Flow

1. Use case begins when the user clicks on the ‘Signup’ button
2. User gets three options ‘club’ ‘scout’ ‘player’. Once the user clicks on the profile of their choice.
3. User will be required to fill in their details in the fields provided by the application. (First Name, Last Name, Email address, Phone number, Password, Confirm Password). Club and scout will have an extra field (Club or scout registration number).
4. User clicks on ‘Create an account’.
5. **If the user details are valid:**

5.1 The application will notify the user that the signup process was successful and will need to verify their email.

5.2 The user registration details will be stored in the database.

If user details are not valis:

5.3 The application will ask the user to check fields for errors

5.4 The user's details will not be stored in the database and the user will not have an account created.

Alternative Flow:

1. Email has been already used.
2. Invalid email
3. Password do not match
4. Invalid email format

Termination: The system will save the user details in the database and will receive a successful signup message which will allow the user to use the application.

Post condition: The system goes into a wait state and wait for the user to verify their email then login to use the application.

Preconditions: For a signup to be successful an internet connection needs to be connected to the database.

Success Conditions:

1. User successfully creates an account
2. User has access to the application services
3. User can login into the application
4. User details are saved in the database.

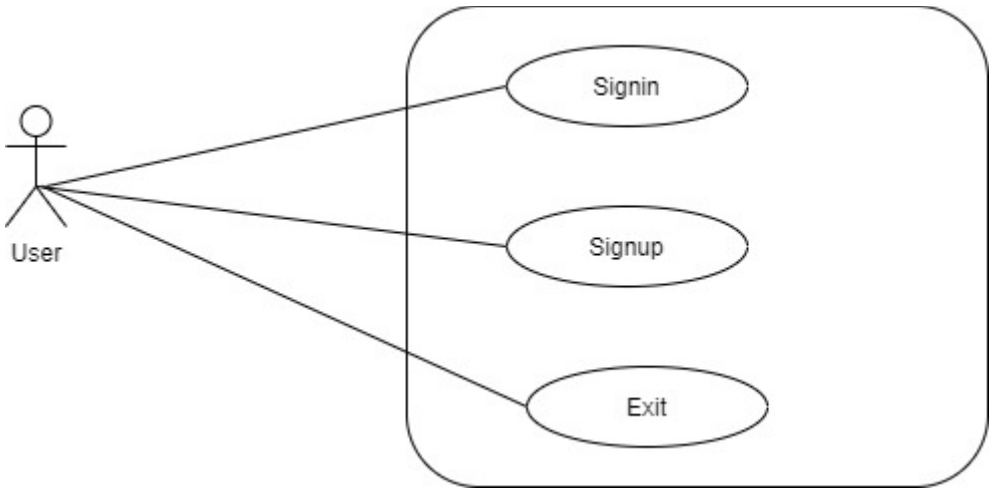
Failure conditions

1. User has no access to the application services
2. User cannot login into the application
3. User details are not saved in the database.

Requirement 2 <User Login>

Description & Priority: User Signin is required in order for the use of the system. As we can see on use case shows the interaction of the user which will try to Signin with their registered credentials to use the application services. The application should be able to retrieve the details make sure the password and email entered match with the save password and email. As we know we will have different users and they will have different features on the application.

Figure 2 Login Use Case



Detailed Use Case Description

(Figure 2)

Name: Login Use Case

Description: this case describes the steps of how the user successfully sign into their account on the application

Activation: This use case starts when the user has gone through the registration procedure and have verified their account in this case the user will verify their

account through phpMyAdmin. The user can click on the ‘Login’ button on the application and follow the steps involved by using their email and password

Basic Flow

1. The use case starts when the user clicks on the Login button.
2. The system will ask for the user to input their email address and password
3. The user clicks the ‘SIGN IN’ button
4. The application validates the fields.
5. The user signs in successfully once the email address and password have been inputted correctly.

5.1 **In case the user details are valid:**

The application will automatically send an acknowledgment for the login process being successful. The application will redirect the user to their appropriate home page.

5.2 **In case the user details are invalid:**

The application will tell the user These credentials do not match our records’

6. The application will send the user to a successful interface after successful login.

Alternative Flow:

1. Invalid email address
2. Incorrect Password.

Termination:

User will still be on the login page.

Post condition

The system goes into a wait state and waits for the user to select the service that they wish to be provided for them.

Preconditions: There has to be an internet connection for the application to be able to retrieve the user login details from the database for a successful login to happen.

Success Conditions:

1. The has access to the application services
2. The user enters the valid email and password
3. The user is successfully logged into the application
4. The user details are retrieved from the application database

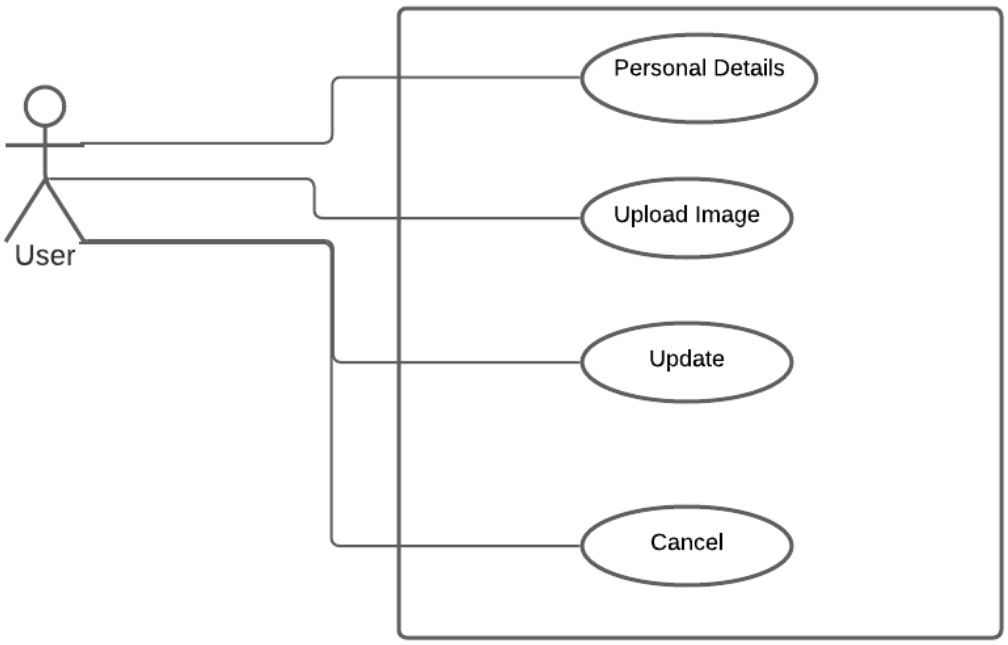
Failure conditions:

1. The user cannot login into the application
2. The user has no access to the application services

Requirement 3 <Creating Profile>

Figure 3: The Profile is required as it is going to be one of the main features on the system each member will need to have a profile with their picture in it.

Figure 3 Creatin Profile



Description & priority:

Use case describes the creation of a user profile.

Scope

The scope of this use case is to show how to create a profile.

Description

This use case describes the steps of how the user successfully creates a profile on the system.

Use Case Diagram

Diagram should highlight actors and uses cases.

Flow Description

Precondition

The user may not have to create a profile straight away as I mentioned in my requirement specification but instead the user will create their account will have the option to upload their profile picture if they wish. The reason I changed this is

because I did not want the user to wait any longer but be able to navigate on the application and make that decision whether they would like to upload or not.

Activation

The use case starts when the user clicks on the ‘edit profile’ button.

Main Flow

1. The system identifies the user sign up or login details to have access to create their profile.
2. The system will ask for the user to upload their picture
3. The user profile will be created successfully once they upload the image with the right size

Alternate Flow

1. The system will alert the user that the image they are trying to upload is too big.
2. The user can use an image with appropriate size

Termination

The system terminates when the user uploads the right picture size.

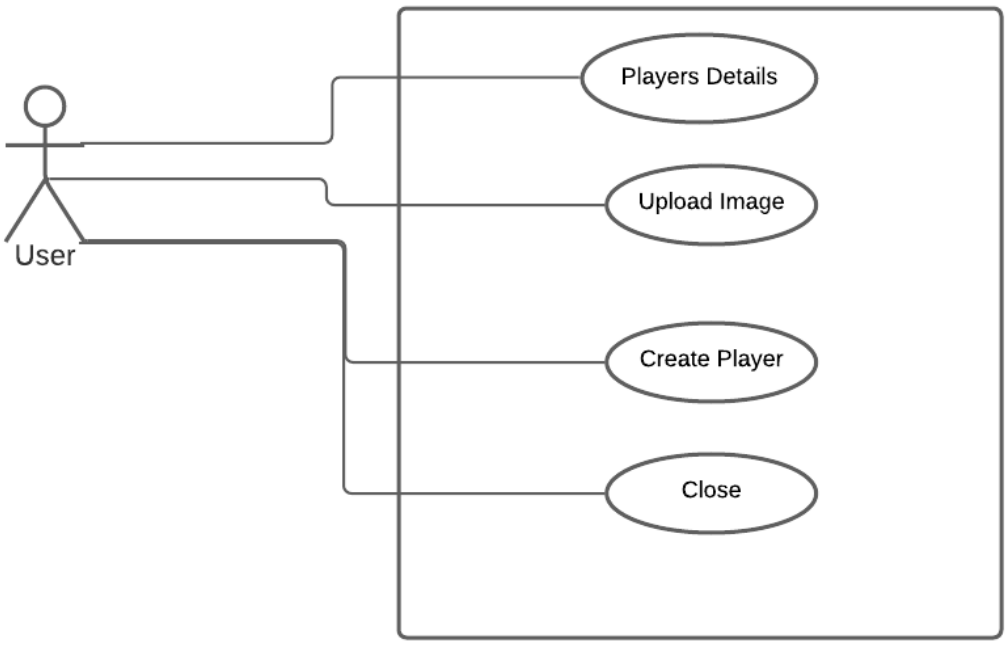
Post condition

The system goes into a wait state and waits for the user to select the service that they wish to be provided for them in this case the user will be able to edit their profile any time they wish.

Requirement 4 <Player profile>

Figure 4: Creating a player’s profile is a feature that only the player club admin will have access to. The clubs will create players profile be entering their personal details and their image which will be mandatory in this case.

Figure 4: Players profile



Use case

The Use case describes the creation of a player profile

Scope

The scope of this use case is to show how to create a players profile.

Description

This use case describes the steps of how the user successfully creates a players profile on the application.

Use Case Diagram

Diagram should highlight actors and uses cases.

Flow Description

Precondition

The clubs oversee creating players profile as that would be the next step after the club account has been created.

Activation

The use case starts when the user has created an account and will have access to create their players profile by clicking on the ‘Add Player’ button.

Main Flow

1. The application will identify the user login details to make sure that specific user has access to add a player.
2. The application will ask the user to provide the player details they wish to add in the club.
3. Player profile will be successfully created once the player details have been provided including the image.

Alternate Flow

1. The application will alert the user to check field if information missing or if image is too big
2. User can use appropriate size of image if needed.

Termination

The system terminates when the user has added all the player details.

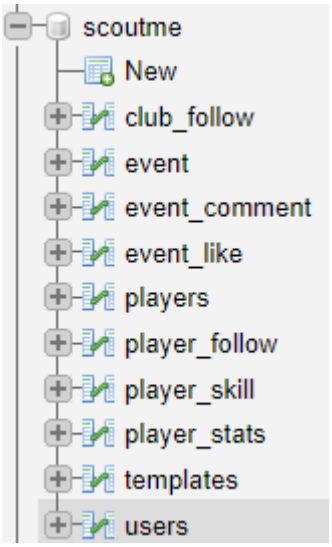
Post condition

The application goes into a wait state and waits for the user to select the service that they wish to be provided for them in this case the user will be able to add, remove and edit players details.

2.1.2 Data requirements

This section will describe the data requirements of the application which are important to the application features which are mentioned above.

Database server: The server type I used for this application is XAMPP running version is v3.2.4. I used MySQL as database of the application which is a relational database driver user in the PHP programming language to provide an interface with MySQL databases. Anyone that will have access to this application will have their details stored in the database which consists of 10 main tables (club_follow, event, event_comment, event_like, players, player_follow, player_skill, player_stats, templates, users) all these tables are stored in only one database named 'scoutme'.



2.1.3 User requirements

This section will cover the user requirements which is for user who wish to use the application must have to meet the following requirements:

- **Laptop/computer:** The user will need to have access to a laptop/computer either windows or MacBook to be able to use the application.
- **XAMPP:** The user will need download XAMPP onto their machine and run Apache and MySQL.
- **Internet Access:** the user will need to be connected to the internet to use the application.
- **Internet browser:** the user will need to download a browser preferably Google Chrome.

2.1.4 Environmental requirements

This section will explain the environmental requirements that are important when developing the application.

- **MacBook/Windows:** MacBook or Windows laptop is required to open or run the source code of the application
- **windows 10:** Windows 10 is required to run the application.
- **Text editor:** Any text editor will be needed to run the code.
- **Internet Access:** Internet access is needed to access the database of the application(php MyAdmin).
-

2.1.5 Usability requirements

To use the scoutme application the user needs to have a device such as laptop and have internet access. The user must be registered to the application. In this situation it is assumed that the user knows how to create an account and know how to complete the signup form asking personal details and most importantly the user must know how to choose a secure password that will be impossible to guess.

2.2 Design and Architecture

This application is built using different computing languages such as HTML5, Bootstrap, JavaScript, Json, jQuery, PHP, CSS3. A MySQL database is utilised to store important users information and well prepared and structured statements are used to retrieve the relevant information when needed on the correct pages. Bootstrap is included in the application as it allows web sites like the one, I've developed to be mobile responsive this allows me to create a web application that would easily allow me to turn it into a mobile application programmed properly. Players stats is one the features that have been developed using JavaScript which calculates all the stats filled in by the club and turns it into percentages (%). The CSS for this application gives a fluidity to the application which makes it very attractive for the users and smooths when going through

different pages. Every time users login a session is created and saved until the application is saved. Users are able to follow each, post event and like each post as I got this idea on social networks such as Facebook, Instagram & Twitter and every time a user makes any of the above interactions the application saves the changes to the database.

2.3 Implementation

This section will describe the main algorithms used in the code.

User Types: As the application I developed have 3 different types of users, so at the time of signup and login the application is getting the users type stored in the system database based on the below code snippets and allow the user to go in the platform to perform and access the functionality. Basically, in the below shared the code snippet below I have identified the user privileges and based on that I have redirected user to the panel of dashboard.

```
33      public function dashboard()
34      {
35        $user = Auth::user();
36        $id = $user->id;
37        $activemenu = 'Home';
38        if($user->role == '2'){
39          $users    = DB::table('users')
40                      //->leftJoin('category', 'category.id', '=', 'sub_category.category_id')
41                      //->select('sub_category.*','category.title as categorytitle')
42                      ->where('id',$id)->first();
43
44          $playercount = DB::table('players')->where('user_id',$id)->count();
45          return view('club/dashboard',compact('users','playercount','activemenu'));
46        }elseif($user->role == '4'){
47          $users    = DB::table('users')
48                      ->where('id',$id)->first();
49          $players = DB::table('players')
50                    ->where('user_id',$user->id)
51                    ->first();
52          $events = DB::table('event')
53                    ->where('user_id',$user->id)
54                    ->orderBy('id','DESC')
55                    ->get();
56          $followers    = DB::table('player_follow')
57                      ->where('player_id',$id)
58                      ->where('status','1')
59                      ->count();
```

```
            $following    = DB::table('player_follow')
                            ->where('user_id',$id)
                            ->where('status','1')
                            ->count();
            return view('player/dashboard',compact('users','activemenu','players','events','following','followers'));
          }else{
            $users    = DB::table('users')
                            ->where('id',$id)->first();
            return view('scout/dashboard',compact('users','activemenu'));
          }
        }
```

Follow/unfollow feature: This feature allows users to follow and unfollow other users. Users can see any user profile and be able to follow them and also be able to unfollow the. The image bellow is the code snippet of these functionality.

Update Profile Information: The below code snippet allows the application to update and store user information in real time. So basically, when a user enters

any information and clicks outside the box, the information will be stored automatically without refreshing the page.

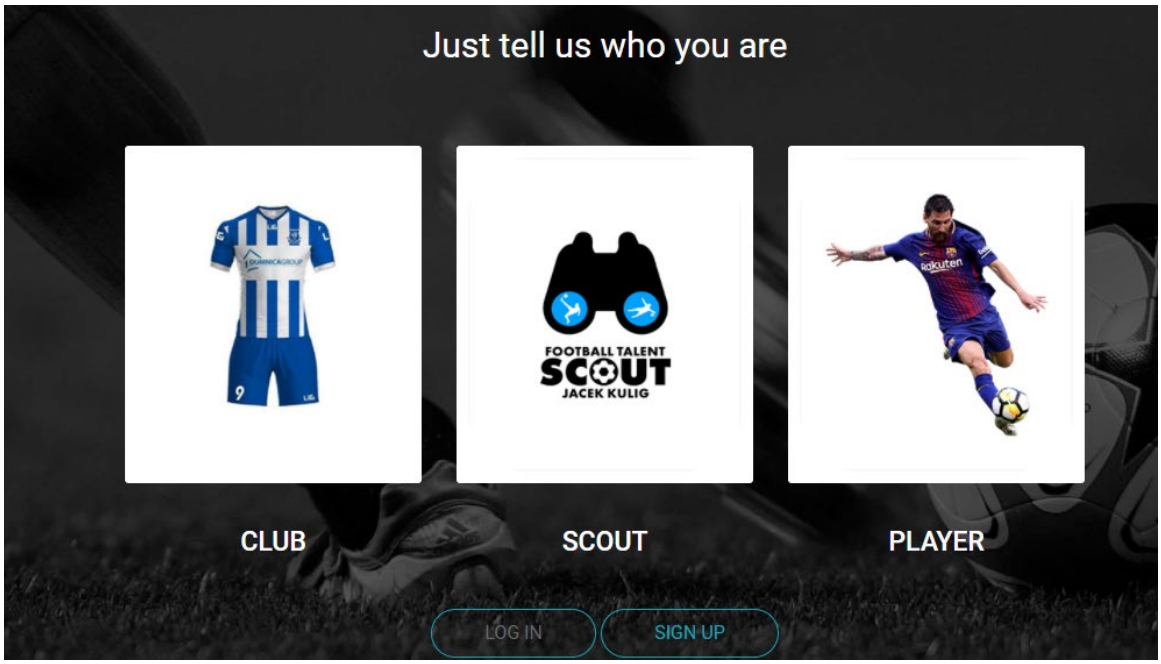
```
<script type="text/javascript">
  $("#editClick").on('click', function(){
   $('.skills').attr('readonly', false);
   $("#Passf").focus();
  });

  $('.skills').change(function() {
      var val     = this.value;
      var slug    = $(this).attr("data-attr");
      var type    = $(this).attr("type-attr");
      var _token  = $('#_token').val();
      var pid     = $('#playersid').val();
      $.ajax({
        url: '<?php echo url('/'); ?>/change-player-skill',
        type: 'post',
        data: '&val='+val+'&_token='+_token+'&pid='+pid+'&slug='+slug+'&type='+
        success: function (data) {
          //$('#cprice_'+newid).val(val);
        }
      });
});
</script>
```

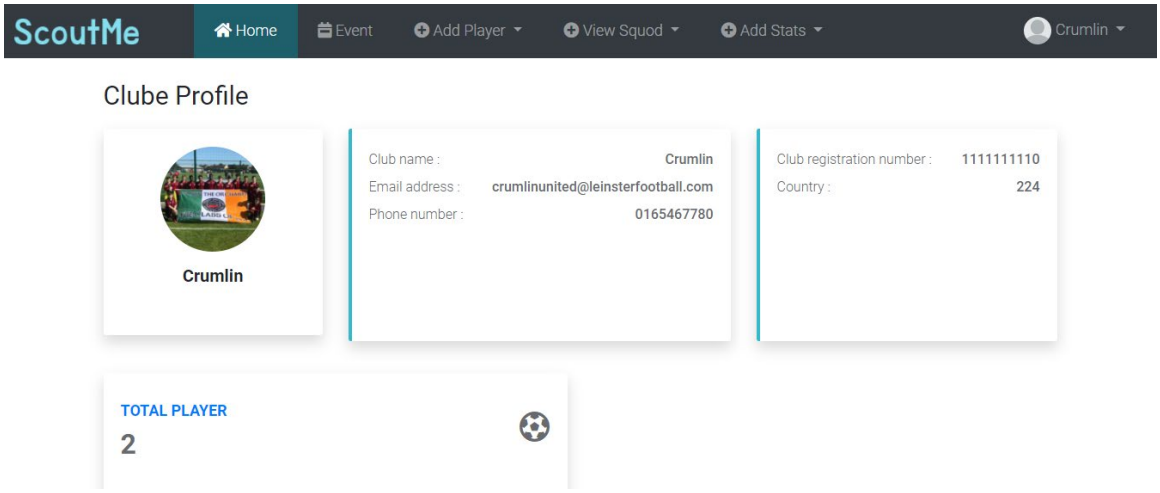
2.4 Graphical User Interface (GUI) Layout

This section will show screenshots of key screens and explanations with them.

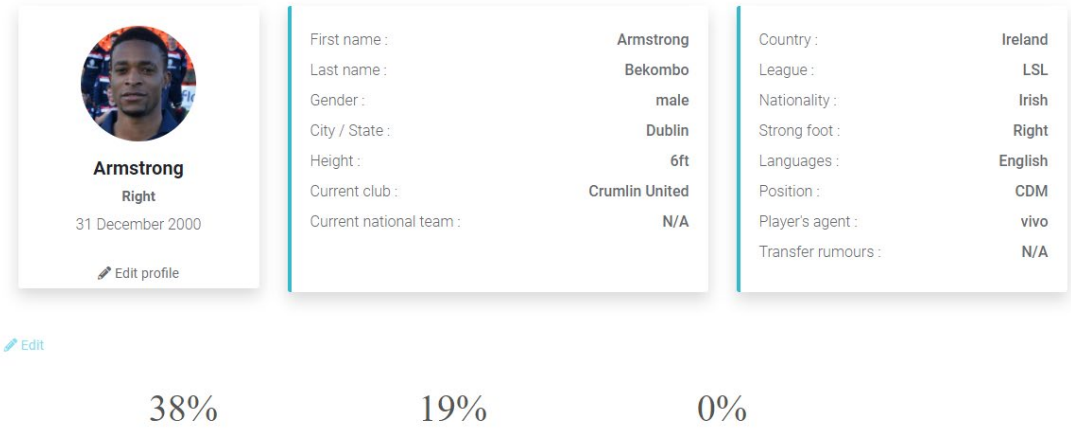
Different users: The screenshot below is the page shown to a new user who wants to signup and is given 3 different choices and the user have to choose to appropriate profile as they will be required to provide different personal details to be able to Signup. The user has to click on one of three profiles then click Signup or LOG IN if they are already registered.



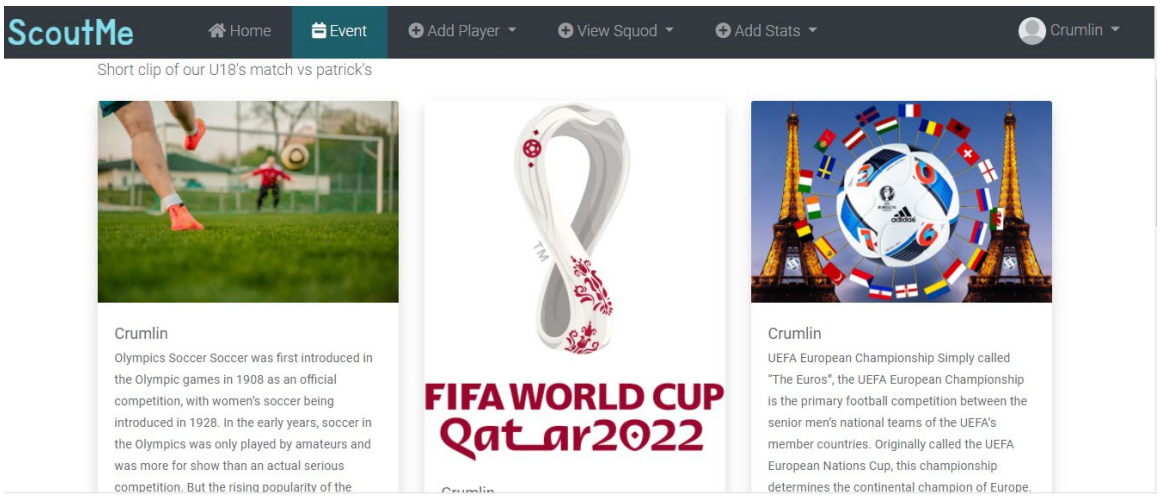
Club Profile: the image below is how a club profile looks like as I believe it is one of the key screens as you can see on top of the page to user can create an event, create a Add a player to their club, view the squad, and add stats for players. Only a club member with the right to this account have to access to use those features.



Player Stats: the image below just demonstrates a player that was added by the club and his matches stats were added to his profile with his profile picture and the club also have the right to edit the selected player profile if they wish.

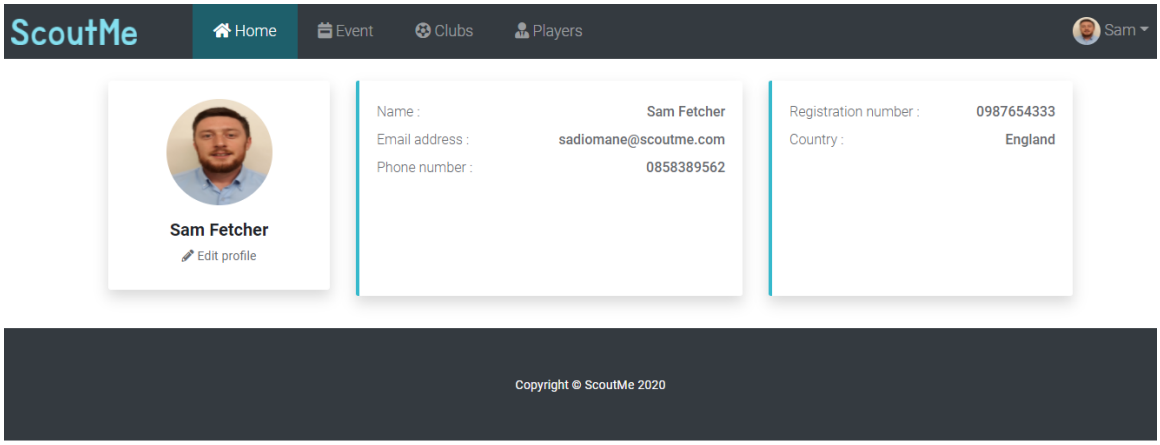


Events: The image below is the event page where users can create an event once it's published every other user is able to see to it on their event page. I implemented a like, dislike button and a comment box where users can interact on posts published by clubs, players, and scouts. The reason behind this event page is for every user to have an opportunity to promote themselves especially clubs and because the aim would be to get scouts attentions by uploading videos footage and images of their registered player to their event page. Scouts can also create event to show players they helped get sign professional contracts.

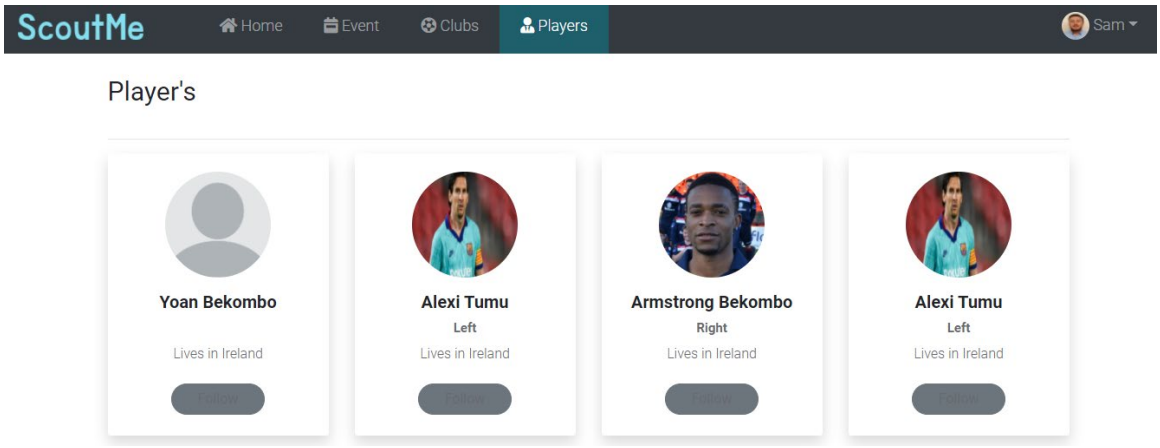


Scout profile: The image bellow shows what a scout profile looks like and a scout has the ability to every club and player that is registered to the application and the can follow their pages to keep up with their activities. Only the scout has

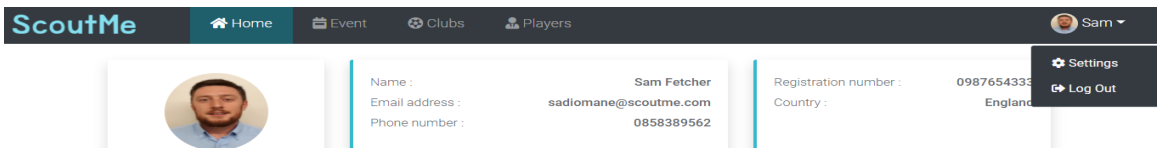
the ability to contact a club regarding a player as in football world that is how it works it is almost illegal for a scout to contact a player directly it always has to go through the players agent which in this case it's the player club.



The image below is the players a scout is able to view as you can see on the image there is a follow button to follow these players if they wish and it is the same thing for the clubs



Settings: Every profile has a setting button there is not too much behind it I just thought it is key to the application as I thought it is important for users to be able to change their password in their profile setting. If a user changes their password to through their profile setting the password will also be updated in the database.



2.5 Testing

A test plan is a detailed document that describes the test strategy and objectives required to perform testing for a software product. I carried out a simple testing plan to make sure that all the testing I wanted to try would give me the outcome I wanted to achieve. I carried out to plan different types of testing which came out the way expected. The test plans I used were the following are **Usability testing, Database Testing, Compatibility Testing, Performance Testing, Security Testing, Functionality Testing.** In the section below I will layout these testing plans and how they worked.

Method	Type of Testing	Manual Testing		Automated Testing on Device
		Using Google Chrome	Using Microsoft Edge	
Standard Testing	Usability Testing	Yes	Yes	No
	Verification	Yes	Yes	No
Special Types of Testing to address specific challenges	GUI Testing	Yes	Yes	No
	Compatibility Testing	Yes		
Type of testing more relevant for football scooting business	Database Testing	Yes	Yes	No
	Performance Testing	Yes	Yes	No

2.6 Usability – System – Integration – End User testing

Usability Testing: Usability testing has now become a vital part of any web-based project. It can be carried out by testers like you or a small, focused group similar to target audience of the web application.

Test the site Navigation:

Menus, buttons, or links to different pages on the application should be easily visible and consistent on all webpages:

Test the content:

Content should be legible with no spelling or grammatical errors. Images if present should contain a “alt” text.

Considering all the factors to carry out a usability it advised to let users to navigate on the website freely and ask them a few questions to see if how they feel about the application. So, we all the difficult time we are all living in “pandemic” it is been really difficult to get people to use to follow this process as this application is not hosted online it has to be run through my local server. I only live with my older sister who know very little about technology, but I still managed to some feedback from her from this questionnaire.

1. What do you know about football scouts?
Nothing really all I know is scouts help people get good contracts
2. Have you ever used a scouting web application before?
Never.
3. How often to you use a computer or laptop
I rarely use either of those because I am always on my phone.
4. What is your first impression on this scout application I created ?
It is very simple it does not have too much content especially the home page.

5. Is easy to use
Yes, it was not too hard to use I understood the concepts straight and I like video at the home page.
6. Would you encourage someone to Sign up?
Anyone that loves football or that has a kid that wants to make it this is a perfect way to be seen.
7. Do you like the design? Why?
oh yes, I do like the design it is very catchy I mean if you are a football person and you saw that website you would want to see what it is about and the video on the home page makes more attractive.

Database testing: Database is one critical component of your web application and stress must be laid to test it thoroughly. Testing activities will include:

- Test if any errors are shown while executing queries
- Data integrity is maintained while creating, updating, or deleting data in database.
- Check response time of queries and fine tune them if necessary.
- Test data retrieved from your database is shown accurately in your web application.

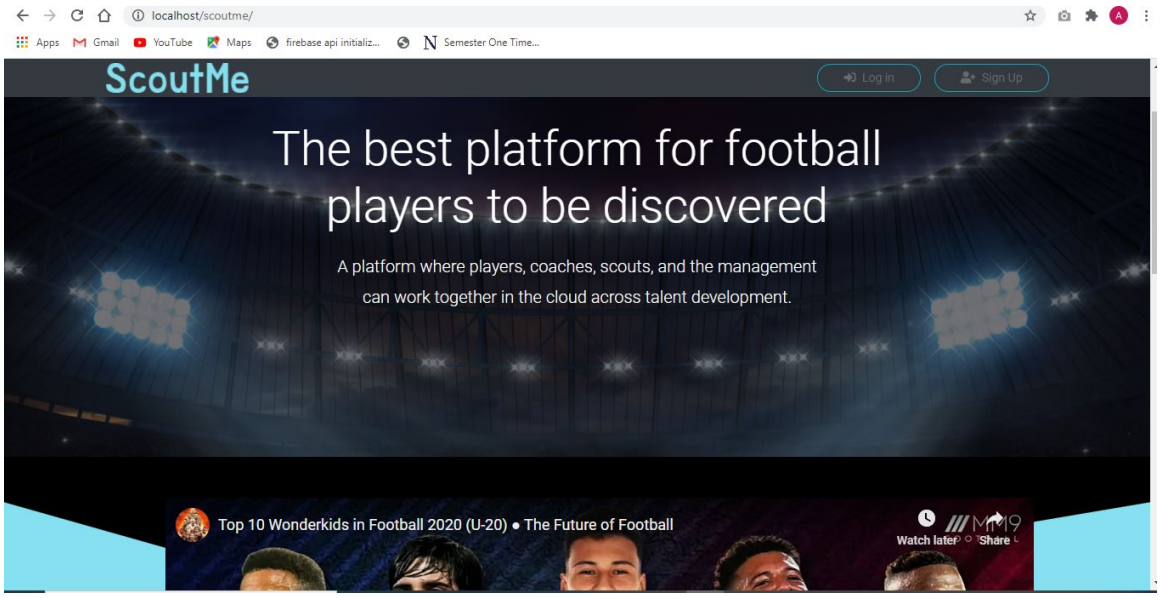
In this case I did not use any tool run any database test as I already knew I would not need because my application was going to be hosted online as I am in control for every data that is entered by any user. The most sensitive piece information that would be at risk would be the user password, but I made sure to write a code that would encrypt the users password that would not be able to see. In the image below you can see the password section is hashed and that was done using a password hashing code in PHP.

	id	name	lastname	username	email	password
Edit Copy Delete	36	Armstrong	Bekombo	NULL	bekomboarmstrong@gmail.com	$2y$10$XT2OYi7me2iLf1tK4rslEe1BqviL8NEq0S8/di5o4fh...
Edit Copy Delete	38	Alexi	Tumu	NULL	alexitumu@gmail.com	$2y$10$NMECsBxAbEGbp9bF5d1rRucXx1OfeCUQ/5rnfG0EfkF
Edit Copy Delete	39	Crumlin	United	NULL	crumlinunited@leinsterfootball.com	$2y$10$QLf2mpcfIlQcKQyaJQjFm.K0UyQoPOsS9lz5rwltXRg...
Edit Copy Delete	40	Yoan	Bekombo	NULL	yoan@gmail.com	$2y$10$ZA4bUrdDingiDEwbid7y5OkjemWLvw9Mn6VjMILQEgm
Edit Copy Delete	41	Sadio	Mane	NULL	sadiomane@scoutme.com	$2y$10$QYLgiSmW6AcN4yn5CuFtouUvpJbAg3LA4fPX.cSbISb
Edit Copy Delete	42	Shelbourne	Football Clu	NULL	Shelbournefootballclub@leagueofireland.com	$2y$10$LY4Y8rl0vmzuSYdwtEoTa.tj1dnPAFmU8XZSpsHbk46...

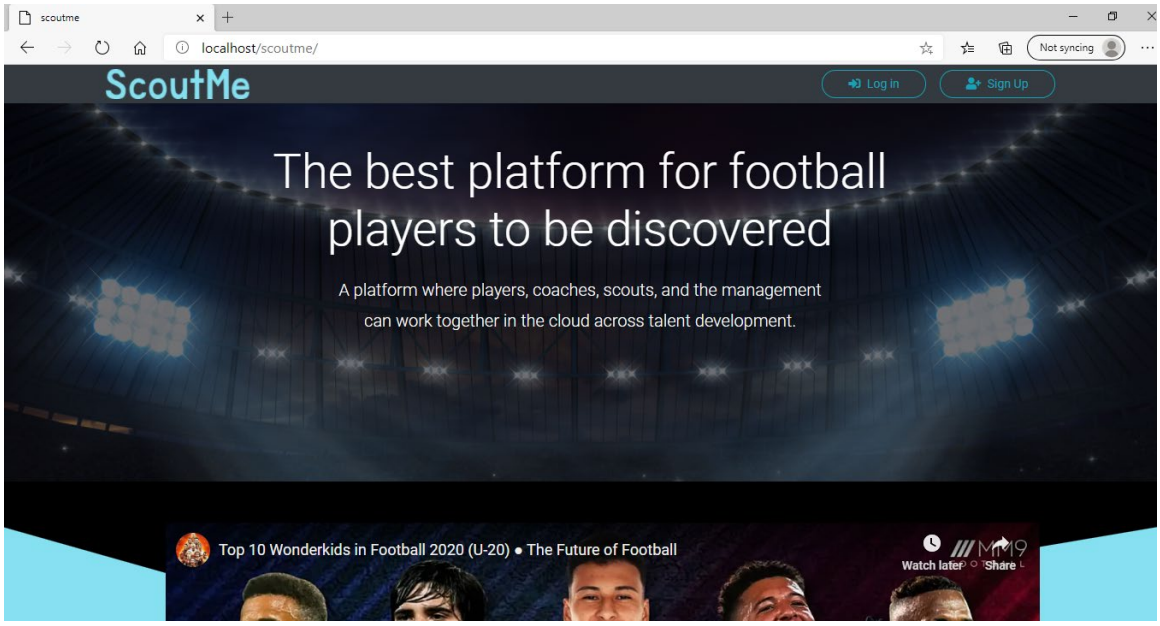
Compatibility testing: This test ensures that your web application displays correctly across different devices. This would include:

Browser compatibility test: Same website in different browsers will display differently. You need to test the web application is being displayed correctly across browsers, JavaScript, AJAX, and authentication is working perfectly. You may also need to check for Mobile Browser Compatibility. In this case I made sure that scoutme application is compatible to be run on different browsers such as Google Chrome, Microsoft Edge, and Internet explorer. The images below will show the different browsers I used for compatibility testing

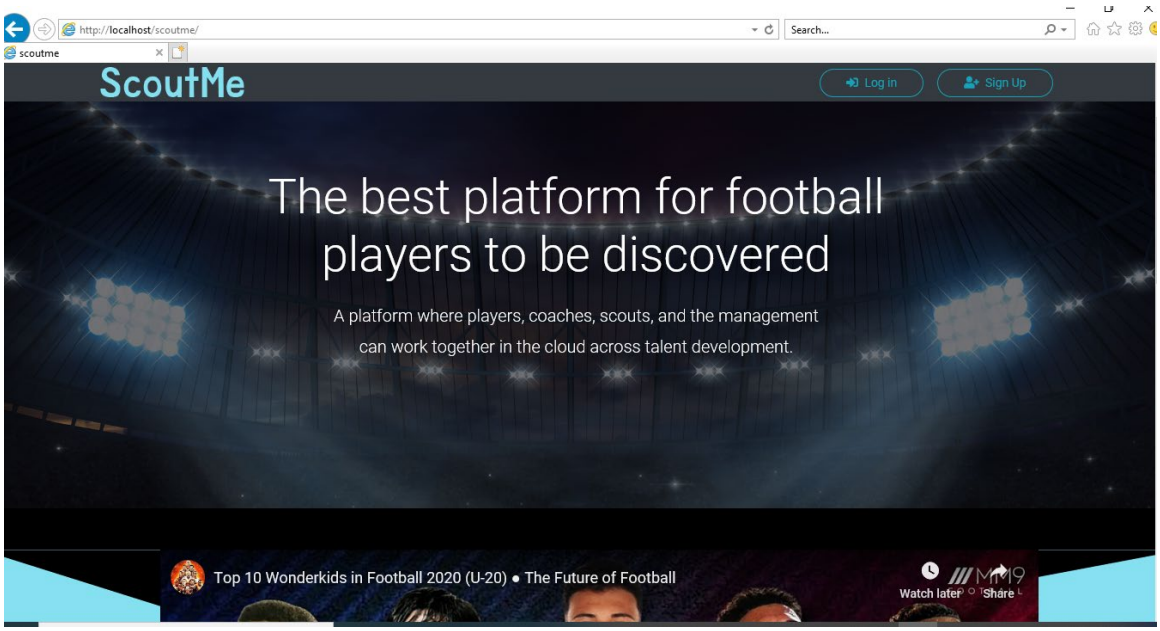
Google chrome



Microsoft edge



Internet explorer



performance testing: this will ensure that the application works under all loads. Software testing activities will include but not limited to:

website application response time at different connection speeds Loads test the web application to determine its behaviour under normal and peak loads stress test the web application to determine its break point when pushed to beyond normal load at peak time.

I connected my application to different connection was tested to connections such as direct Ethernet connection, Wi-Fi, 3G and 4G all connectivity tested was completed successfully.

When I open the application on a browser it starts-up normally as expected with no delays or poor performance against what would be expected. Response time in term of navigation is excellent and all pages render quickly.

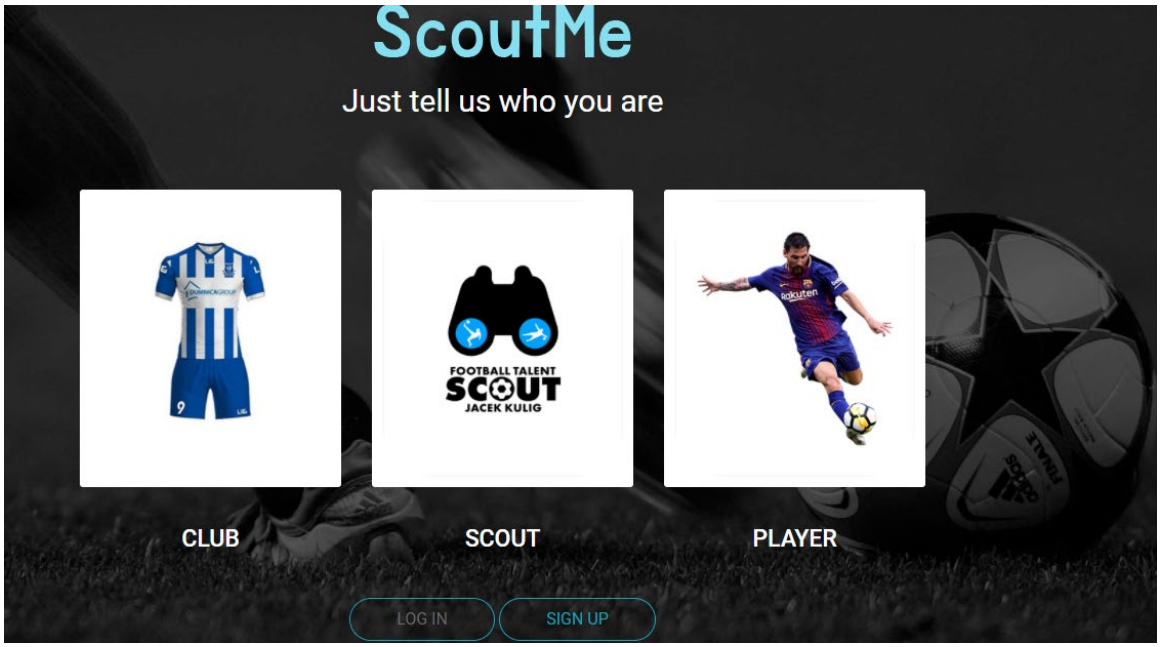
Functionality Testing: This testing of a website is a process that includes several parameters like user interface, API, database testing, security testing, client and server testing and basic website functionalities. Functional testing is very convenient, and it allows users to perform both manual and automated testing.

Implementing functional testing to my application was to make sure that everything works fine as this testing covers all other testing, I mentioned above but this test does it all in one.

Graphical User Interface:

Graphical user interface design principles conform to the model–view–controller software pattern, which separates internal representations of information from the manner in which information is presented to the user, resulting in a platform where users are shown which functions are possible rather than requiring the input of command codes. Users interact with information by manipulating visual widgets, which are designed to respond in accordance with the type of data they hold and support the actions necessary to complete the user's task. The appearance, or "skin," of an operating system or application software may be redesigned at will be due to the nature of graphical user interfaces being independent from application functions. Applications typically implement their

own unique graphical user interface display elements in addition to graphical user interface elements already present on the existing operating system. A typical graphical user interface also includes standard formats for representing graphics and text, making it possible to share data between applications running under common graphical user interface design software. Graphical user interface testing refers to the systematic process of generating test cases in order to evaluate the functionality of the system and its design elements. Graphical user interface testing tools, which are either manual or automated and typically implemented by third-party operators, are available under a variety of licenses and are supported by a variety of platforms. Popular examples include: Tricentis Tosca, Squish GUI Tester, Unified Functional Testing (UFT), Maveryx, Appium, and eggPlant Functional.



2.7 Evaluation

The system was mostly evaluated by me and a family member just for testing ability. I as I mentioned with the pandemic and being a close case it very difficult to get many people to use the application and give feedback. I did best as I could, and I was able to use my sister who knows very little about technology to

test the application every time I achieved a task. When I completed the project, I let my sister use the application freely and I asked for some feedback.

The response I got was that I was not too far to accomplish something that would potentially change lives. She mentioned a few things that would make this blow worldwide. She gave me the idea to develop a live stream system for clubs film live matches to make life easier for scouts that are from other countries, a chat box was mentioned to make interactions between users a lot easier and finally a small fee subscription payment that would go towards charity and poor countries to help kids who cannot afford to buy a pair of football boots. These feedbacks have stuck with me and will impended in the further development of the application.

3 Conclusions

This project was developed to for young footballers in Ireland to still keep their dreams alive. I have to say not having this kind of project in the country is a big disadvantage to next generation I am speaking from experience because a lot my friends and people I grew up with had so much talent in football including myself growing up playing one dream but being seen by the right the people so we can get an opportunity to go abroad on trials for bigger clubs was another dream but we didn't have many scouts watching us play therefore we were playing but we hadn't got a clue where it would take us. As a grown man to today seeing a lot of my friends giving up playing football at a young age is disappointing because there was never any hope that is why I think this a disadvantage to my project which turns into an advantage for to next generation. If I were to take a step further in this project, I believe it will open so many doors for the younger generation who have the same dream I had but the difference is they will be able to turn these dreams to reality.

Technology terms the only disadvantage I could possibly think of the fact that I did not host it online so I can really get feedbacks from different backgrounds I really and truly did not make that happen because the project itself took me a lot of time to complete and I was sharing a laptop with my site.

The opposite side of things which are positive is that I can always host it online anytime I like, and the feature of this application are very simple and easy to use thankful for computing programming languages such HTML5, PHP and SQL helped me create the source code for the website the application will implement and display. PHP has allowed me to create user sessions by making the user usage of the application more secure and also made the development of the application easier because users details can be retrieved by sessions. I used bootstrap because it allows the application the be compatible in other browser and also it will allow me to convert the application to mobile application such IOS or Android. Database plays a big role in the web application as I PHP to create three different type of users which is very rare to see in most website.

4 Further development or research

This application was developed to help the younger generation to never give up their dream about becoming professional footballer because it is never too late. The platform I create would help them achieve this if it is applied properly. Developing this platform really opened up my mind and I believe there are still a lot of work to be done to take this project even further. There is always room for improvement I believe these are the following:

World wide

I have this idea for making this application be used around the world because Ireland is not the country that young talented footballer dreams are going to a waste. I believe this will be very beneficial to small countries and poor countries who get one superstar every decade.

Analysis

Player analysis system on this application needs improvement as it took me a lot of time to get it working which and it was last minute, but I believe more work needs to be done to make it look and perform more professional.

Chat box

The application could have a live chat box between users but most importantly between clubs and scout just to improve communication between both users.

Live matches

Down the road it would be helpful for club to film live matches through the application this would help scout to save their time and money and they can follow up on a player without having to leave their room.

Mobile App

IOS and Android App must develop to get more users as we know now days people use their mobile phone more than anything.

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6 Appendix

Project proposal
Midpoint presentation
Reflective Journals
Project Requirement
Specification
Technical Report
Showcase Poster
Showcase Website Information
4th Year Project presentation

6.1 Monthly Journals / Meeting Minutes

I did not attend to many meeting supervisor during the because I was going through a hard period with my family which I explained to the college, but I will add in below the meetings I attended. I worked a lot on my own pace. Below I will display the meetings I attended.

Reflective Journal

Student name: Armstrong Bekombo

Program (BSc in Computing):

Month: November

My Achievements

This month, I was able to get my project requirements. I read a thesis of a master student from the university of Glasgow. This thesis was based on youth footballers with a dream of becoming footballer. The thesis had so much dept in what is needed to become a football as a footballer. This gave me an idea on how I will be able to work out the statistics for youths to show scouts what kids have the potential of becoming professional footballer.

My contributions to the projects included:

Requirement specification done for this month

Prototype done

Use case diagram

Interface requirement diagram

Research

My Reflection

I felt, it worked well as I did a lot of research and I found what I was looking for and I managed to translate what I found to my project. The research helped get more ideas and try to elaborate more about my project.

However, I was not successful in working in some of other modules project as I felt the software project took me a lot of time as it took me a lot of time to find anything that could probably help me through my project. So, I am little bit behind now for other modules, but this comes down to my time management. Semester one is over in 2 weeks from now and I must be careful by managing my time well to be able to work on my other projects.

Intended Changes

Next month, I will try to manage more my time a little bit better as I'm not in a good position with my other assignments.

Supervisor Meetings

Date of Meeting: 15th/11/19 & 29th/11/19

Items discussed: The idea you should explore is to investigate if there are any cognitive tests that indicate if somebody has the potential to become a professional soccer, things like, reaction time, special awareness...etc. This should facilitate an application to help identify players. The application should also have a multitude of resources, for example actual player stats, videos ...etc.

Find a suitable bootstrap template and construct your database.

Items discussed: how to approach the interface requirements

Action Items: I managed to get the interface requirement done I found a little bit difficult as I did not know what is really expected.

I done all the research my supervisor asked of me and I thought I found the information I was looking for.

Reflective Journal

Student name: Armstrong Bekombo

Program (BSc in Computing): Software Development

Month: December

My Achievements

This month, I was able to finish the requirement specification for my project and attend the mid-term presentation with my supervisor. I was able to do more research on this project regarding what scouts do look for in a player especially younger player.

My contributions to the projects included …

- Finish the requirement specification
- Have a prototype for the presentation
- Upload the mid-point presentation
- Keep doing more research
- My Reflection
- I felt, it worked well as I had the requirement specification and power point for the mid-point presentation done on time. I thought I done ok at the presentation. I was able to add more ideas to my project and remove some which I feel like they will unnecessary. As I am trying to keep this as simple and flexible as much as possible.
- However, I was not successful in to have a prototype for the mid-point presentation which kind of left me short at the presentation because the examiner and my supervisor were expecting to see something.

Intended Changes

Next month, which is going to be start of the second semester I will try to start building the web application and try follow my Gant chart which will set out a guideline for the project to make sure the milestones and deliverable of the project are met.

I realised that I need to need to work on my time as second semester is expected to be less stressful in term of having less modules compare to semester one.

Supervisor Meetings

Date of Meeting: 29/11/19

Items discussed:

- Requirement specification
- Mid-point presentation
- prototype

Action Items:

- I was able to solve the questions I had regarding requirement.
- I was also able the power points regarding the mid-term presentation as I was not too sure about what was required on the day.

Reflective Journal

Student name: Armstrong Bekombo

Program (e.g., BSc in Computing):

Month: February

My Achievements

This month, I was able to create the registration and login system for all different kind of users. Creating a database system where users data will be stored when they register to the system and will be able to login anytime as their information will be save in the database.

My contributions to the projects included …

Creating the database for the users

Creating a firebase account where all user's data will be stored.

Designing the registration and login forms.

My Reflection

I felt, it worked well to creating database using firebase as I think it is easier to store user's data.

However, I was not successful in managing my time very well as I have other projects to work on.

Intended Changes

Next month, I will try to create profiles for users and design other pages such scouts, football club and players where they will be able manipulate their profiles once they are logged in.

I realised that I need to work a bit faster as it is getting closer to the end of the academic year. Also, I need to some work every day to be able to complete this project.

Supervisor Meetings

Date of Meeting:

Items discussed:

Action Items: