

National College of Ireland
BSc in Computing
2015/2016

Aaron Duffy

X12487538

arondufee@gmail.com



Technical Report



National
College *of*
Ireland

Table of Contents

Executive Summary	4
1 Introduction	5
1.1 Background	5
1.2 Aims	5
1.3 Technologies	6
2 System	7
2.1 Requirements	7
2.1.1 Functional requirements	7
2.1.2 Requirement 1 <User Login/Registration>	7
2.1.3 Requirement 2 <Image Upload>	8
2.1.4 Requirement 3 <Image Display>	9
2.1.5 Requirement 4 <Leaderboard System>	10
2.1.6 User requirements	12
2.1.7 Reliability requirements	12
2.1.8 Maintainability requirements	12
2.1.9 Portability requirement	12
2.1.10 Extendibility requirement	12
2.2 Design and Architecture	13
2.3 Implementation	14
2.4 Testing	16
2.5 Graphical User Interface (GUI) Layout	21
2.6 Customer testing	22
2.7 Evaluation	23
3 <i>Conclusions</i>	27
4 Further development	28
5 <i>References</i>	29
6 Appendix	30
6.1 Project Proposal	30
6.1.1 Objectives	30

6.1.2	Background	30
6.1.3	Technical Approach	31
6.1.4	Special resources required	31
6.1.5	Project Plan	31
6.1.6	Technical Details	32
6.1.7	Evaluation	32
6.2	Monthly Journals	33
6.2.1	Reflective Journal - September	33
6.2.2	Reflective Journal - October	34
6.2.3	Reflective Journal - November	35
6.2.4	Reflective Journal - December	35
6.2.5	Reflective Journal - January	36
6.2.6	Reflective Journal - February	36
6.2.7	Reflective Journal - March	36
6.2.8	Reflective Journal - April	37
6.2.9	Reflective Journal - May	37

Executive Summary

The objective of this software project is to create a competitive social media web application for skateboarders with the scalability to work on phones, tablets, laptops and desktops. Users should be able to sign up to the application, create a profile and upload images of themselves skating at the famous skate spots around Dublin. Other users can then vote on their favourite images from each skate spot allowing the skater with the highest voted trick to “Own the spot”.

As the industry of skateboarding is becoming more and more competitive, my objective with this application is to add a totally new edge of competitiveness to the sport. It allows skaters who aren't sponsored or known to show how good they are at the same skate spots the professionals are skating, and letting the public and other skaters determine who has landed the most intricate trick at each individual skate spot.

I feel users of this application will enjoy this new form of friendly competition resulting in skaters progressing and doing bigger and better tricks.

1 Introduction

1.1 Background

I got my first skateboard when I was 12 and have been skating on and off ever since. I came up with this idea a few months ago while playing the xbox 360 game "Skate 3". In the game there is a mode called "King of the street". To win the game you have to out-trick your opponents and land the most technical, highest scoring trick on the same skate spot (e.g. a set of stairs, bench, ramp etc...) within 15 seconds.

I had been trying to come up with ideas all summer for this project and it hit me while playing the game that it would be great if I could turn "King of the street" into reality.

As a skater myself, there has always been competitiveness between friends at the skatepark, with everyone trying to do bigger and more creative tricks than the rest. I feel this application will allow for even more creativity and competition, resulting in skaters progressing faster and getting better (which is addicting). There is also the gratification side of things, where the more likes you get the better you feel the trick is. People love getting 'likes' on their videos and photos, so hypothetically, people will be willing to try better tricks to impress the rest of the skaters.

As you can see, this app, if made correctly, could play a role in adding a whole new dimension to the amateur and professional skateboarding industry.

1.2 Aims

The aim of the project is to develop a social media/web application with a competitive edge that allows skateboarders to upload images of their best tricks at different skate spots around Dublin. The video clips will then be added to a leaderboard where the skaters can vote on their favourite tricks at each spot.

The system shall have a clean and minimal design allowing users to clearly see the images and easily navigate through the site.

- User Profile
- Image Upload
- Image Display
- Leaderboard system
- "Like" system

1.3 Technologies

Bootstrap – Bootstrap is an open source front-end library for creating dynamic websites and web applications. It contains HTML and CSS based design templates to help create a website for any device. I have used Bootstrap in my project to make it more of an application than a website. With the use of Bootstrap my application scales to fit any screen dimensions on any device.

HTML5 – HTML5 is the latest revision of the Hypertext Markup Language. This version allows the developer to use new specific functions for embedding graphics, audio and video which I have integrated into my application.

MySQL – MySQL is a relational database management system. I have used this in my application to send queries to and from the database. This allows me to store user and image data.

Google Maps API – Google Maps API is a web based service that allows developers to embed highly detailed maps into their websites and web applications. Developers can customise satellite and road maps to fit in to their apps. I have used this within the my application to display the locations of skate spots using their exact longitude and latitude.

PHP – PHP is a scripting language that is embedded into the HTML of the application. When a users accesses PHP script it is parsed by the server beforehand which then turns it into html. I have used PHP in my application to create an image upload/display system, also a liking system for the images.

2 System

2.1 Requirements

2.1.1 Functional requirements

2.1.2 Requirement 1 <User Login/Registration>

2.1.2.1 Description & Priority

The system will have a user login that will allow them to like and comment on videos.

2.1.2.2 Use Case

Scope

The scope of this use case is to get user login information so users can access their profile.

Description

This use case describes the protocol of user login.

Flow Description

Precondition

The system is open on the home page.

Activation

This use case starts when the user clicks login button.

Main flow

1. The system identifies the user.
2. The system prompts user to enter email address.
3. The system prompts user to enter password
4. The user clicks log in.
5. The user can now see their profile.

Alternate flow

A1: <Not a valid user>

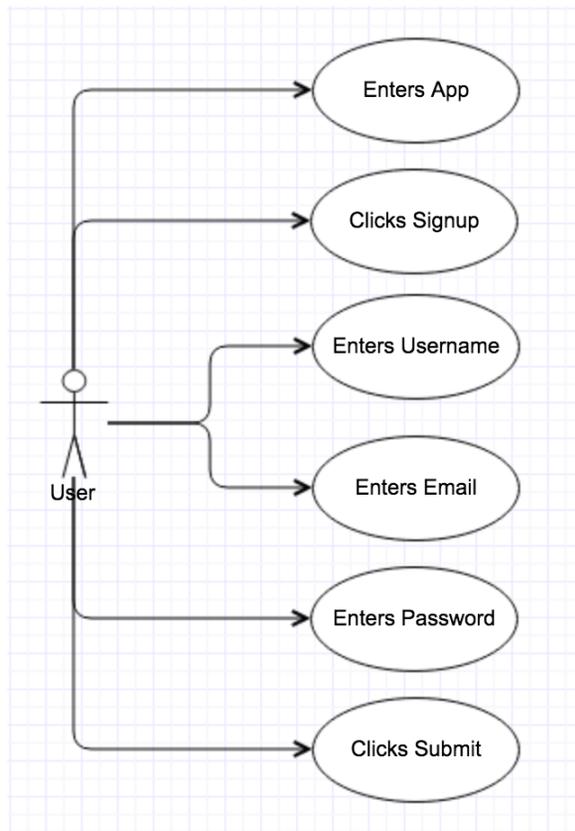
1. The system prompts that user is not valid
2. The system tells the user to register
3. The user registers their username, email and password.
4. The system continues on at position 4 of the main flow.

Termination

The system opens the profile page.

Post condition

The system goes into a wait state.



2.1.3 Requirement 2 <Image Upload>

2.1.3.1 Description & Priority

The system should contain an image uploader that allows them to upload their images to each skate spot.

2.1.3.2 Use Case

Scope

The scope of this use case is the upload of images to the site.

Description

This use case describes the actions a user will have to take to upload an image.

Flow Description

Precondition

The system is on the upload page.

Activation

This use case starts when the user opens the upload page.

Main flow

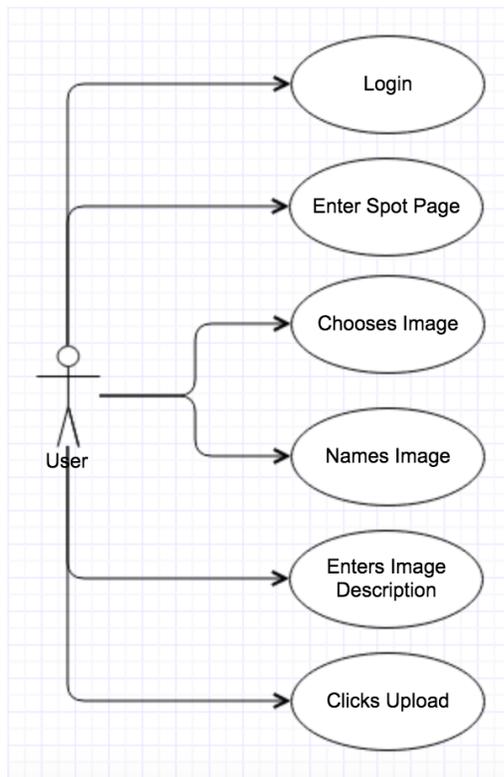
1. The system identifies the user.
2. The user is prompted to choose an image file.
3. The user clicks on the browse button.
4. The user chooses an image from their computer.
5. The user enters name of the image.
6. The user enters image description.
7. The user clicks upload

Termination

The system presents the successfully uploaded page.

Post condition

The system goes into a wait state



2.1.4 Requirement 3 <Image Display>

2.1.4.1 Description & Priority

The system should be able to display images that have been uploaded.

2.1.4.2 Use Case

Scope

The scope of this use case is the displaying of images.

Description

This use case describes the steps a user will take to view an image from a certain skate spot.

Flow Description

Precondition

The system is at the home page.

Activation

This use case starts when a user clicks on a skate spot on the map.

Main flow

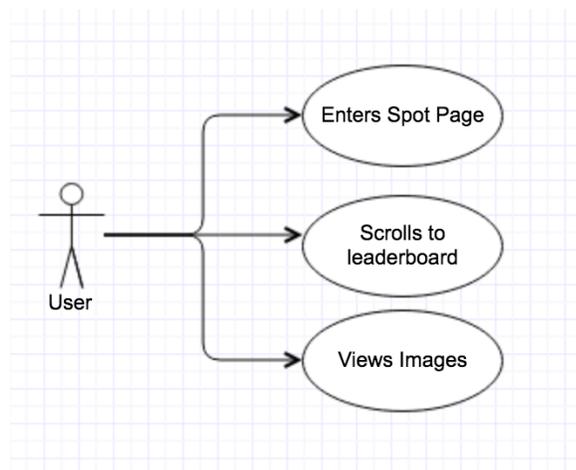
1. The system identifies the user.
2. The user scrolls to the leaderboard.
3. The user views the image.
4. The user can then “like” the image.

Termination

User goes to a different page

Post condition

The system goes into a wait state



2.1.5 Requirement 4 <Leaderboard System>

2.1.5.1 Description & Priority

The system should contain a leaderboard to add competitiveness to the app.

2.1.5.2 Use Case

Scope

The scope of this use case is to show how the leaderboard system works.

Description

This use case describes the action of a user voting on their favourite skate trick from one of the skate spots.

Flow Description

Precondition

The system is at the home page.

Activation

This use case starts when a user clicks on a skate spot.

Main flow

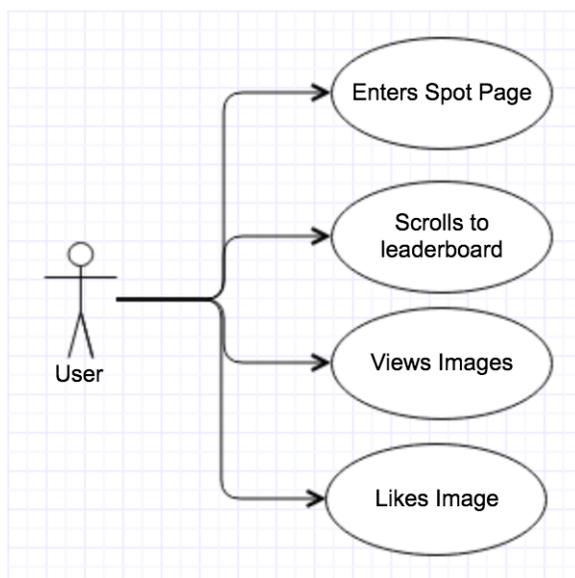
1. The system identifies the user.
2. The system displays leaderboard of images.
3. The users view images at their pleasure.
4. The users clicks the "Like" button.
5. The system recognises the like button click.
6. The system adds the like to the image.
7. The system rearranges the leaderboard in order of likes.

Termination

The user exits skate spot page.

Post condition

The system goes into a wait state



2.1.6 User requirements

From the customer's perspective, they want an application that allows them to display their skate tricks to as many people as possible. They believe this will help motivate them to get better and it will allow for skate companies to see them, which could lead to sponsorships. Skaters would also like to be able to view their friends and professional skaters doing tricks at their local spots all on one application instead of having to flick through different web pages and social media sites.

The requirements needed for a customer to use the Own the spot application are as follows:

- **Smartphone/Computer** – the user should have a smartphone or computer that has access to the web.
- **Internet** – the user needs an internet connection to be able to stream and upload to the website.
- **Camera** – if a user wants to upload to the website they will need a camera, it can be a camera from a phone or a high-end digital camera.

2.1.7 Reliability requirements

The system should be reliable; there should be no problems with uploading or displaying an individual's image. It should also be reliable in the way of the leaderboard system, the person with the most likes should always be on top.

2.1.8 Maintainability requirements

The system should be easily maintained; once the basic system is completed it should not need much more work.

2.1.9 Portability requirement

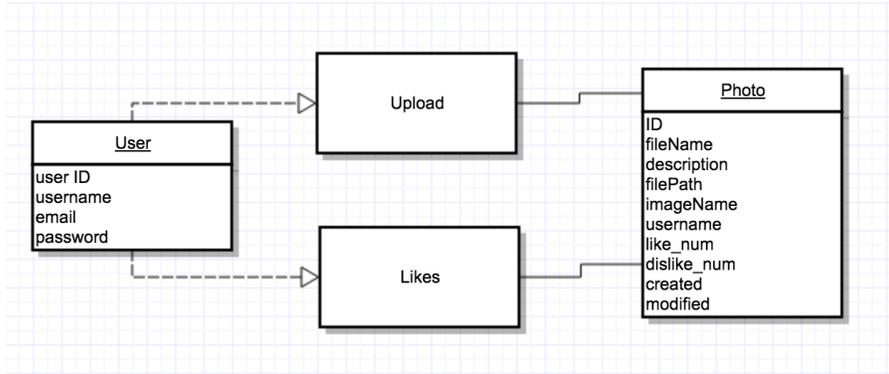
The system should be portable; you should be able to use the application wherever there is internet connection and on any device.

2.1.10 Extendibility requirement

The system should be extendable; it should be created in a way I can keep adding on to the current system.

2.2 Design and Architecture

Class Diagram



2.3 Implementation

When I began developing the application I wanted to use the Instagram API as a way for users to upload their images and display them on the leaderboards using hashtags. I implemented this API and it was working the way I wanted, but then Instagram changed their API policies, which lead to me not being able to use the API as I had implemented. This was a big hurdle as I had spent a lot of time researching and figuring out how to use the Instagram API. In the end I had to start from scratch, so I developed my own Instagram style functions for the application. These functions include image upload/display, image “like” system that I have integrated into the leaderboard.

Image Upload

When creating the image uploader there are a some factors that I had to think about, such as how to store the image files in the database. I did some research and came to realise that the best way to store images is by storing them locally on your hard drive and just save the file path to the database. The code also takes in the user input from the form where users name their image and add a description. This is all saved into the database. Here is the code which saves the images to a folder on the server called “/files”, if the image has successfully been added to the folder the rest of the data will be saved into the database, including the path to where the file is located.

```
//If file is not present in the destination folder
if($fileExistsFlag == 0) {
    $target = "files/";
    $fileTarget = $target.$fileName;
    $tempFileName = $_FILES["Filename"]["tmp_name"];
    $fileDescription = $_POST['Description'];
    $imageName = $_POST['Imagename'];
    $uname = $_SESSION['user'];
    $imageFileType = pathinfo($fileTarget,PATHINFO_EXTENSION);
    $result = move_uploaded_file($tempFileName,$fileTarget);

    //If file was successfully uploaded in the destination folder
    if($result) {
        echo 'Your file has been uploaded successfully'
        $query = "INSERT INTO files(filepath,filename,description,imagename,username) VALUES
        ('$fileTarget','$fileName','$fileDescription','$imageName','$uname)";
        $link->query($query) or die("Error : ".mysqli_error($link));
    }

    else {
        echo 'There was an error uploading your file';
    }
}
```

Image Rating System

The rating system is based on the Instagram “like” system where users can like a photo, the like then gets added to the total number of likes for each image. I have also created a dislike function for future use, but it will not be in use for this beta version. I implemented the like system by adding the like_num attribute to each

image. The rating.php file is implemented when the the image is loaded into the app. This file gets the previous total number of likes, and updates the like_num attribute when the like button is pressed.

```
if($_POST['id']){
    //previous data
    $prev_record = $files->get_rows($_POST['id']);
    //previous total likes
    $prev_like = $prev_record['like_num'];
    //previous total dislikes
    $prev_dislike = $prev_record['dislike_num'];

    //calculates the numbers of like or dislike
    if($_POST['type'] == 1){
        $like = ($prev_like + 1);
        $dislike = $prev_dislike;
        $return_count = $like;
    }else{
        $like = $prev_like;
        $dislike = ($prev_dislike + 1);
        $return_count = $dislike;
    }

    //store update data
    $data = array('like_num'=>$like,'dislike_num'=>$dislike,'modified'=>date("Y-m-d H:i:s"));
    //update condition
    $condition = array('id'=>$_POST['id']);
    //update like dislike
    $update = $files->update($data,$condition);

    //return like or dislike number if update is successful, otherwise return error
    echo $update?$return_count:'err';
}
?>
```

To create the leaderboard and display the images in order of most like I just used a database query that selects all of the images from the database and displays them in descending order.

```
function get_rows($id = ''){
    if($id != ''){
        //fetch single row
        $query = mysql_query("SELECT * FROM files WHERE id = $id");
        $data = mysql_fetch_assoc($query);
    }else{
        //fetch all rows
        $query = mysql_query("SELECT * FROM files ORDER BY like_num DESC");
        while($row = mysql_fetch_assoc($query)){
            $data[] = $row;
        }
    }
    return $data;
}
```

2.4 Testing

Unit Testing

To test the code for my application I have used various HTML and PHP online validators. As you can see from the screenshots there has been no errors within the code.

Index.html

(X)HTML5 validation results

Validator Input

```
<!DOCTYPE html>
<html lang="en">

<head>

  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <meta name="description" content="">
  <meta name="author" content="">

  <title>OWN THE SPOT</title>

  <!-- Bootstrap Core CSS -->
  <link href="css/bootstrap.min.css" rel="stylesheet">

  </head>

</html>
```

Show Image Report
 Show Source

The document is valid HTML5 + ARIA + SVG 1.1 + MathML 2.0 (subject to the utter previewness of this service).

index.html validated using W3C html validator.

As the rest of the code is PHP I used <https://www.piliapp.com/php-syntax-check/> to validate the PHP.

Db.php

PHP code syntax check

Check your PHP syntax online. It can check both PHP4 and PHP5 for errors.

version: php-4.4.9 php-5.2.17 php-5.3.21 php-5.4.28 php-5.5.12
 php-5.6.6

```
$i++;
$sep = ($i == $data_array_num)?"": " AND ";
$condition_str .= $key."=".$val."";
}

$update = mysql_query("UPDATE ifsc SET $cols_vals WHERE $condition_str");
return $update?TRUE:FALSE;
}
?>
```

Related Links

- [javascript validator](#)
- [MySQL Syntax Check](#)
- [Regex Tester](#)
- [Compress JS and CSS](#)

www.piliapp.com says:

No syntax errors detected in CODE

This is the PHP function that displays the images in descending order of likes. As you can see from the validator there are no errors or issues in the code.

Upload.php

PHP code syntax check

Related Links

Check your PHP syntax online. It can check both PHP4 and PHP5 for errors.

version: php-4.4.9 php-5.2.17 php-5.3.21
 php-5.6.6

www.piliapp.com says:
No syntax errors detected in CODE

Prevent this page from creating additional dialogs.

```
$fileExistsFlag = 0;
$fileName = $_FILES['Filename']['name'];
$link = mysqli_connect("localhost","root","root","tester") or die("Error ".mysqli_error($link));
/*
 *   Checking whether the file already exists in the destination folder
 */
$query = "SELECT filename FROM ifsc WHERE filename='$fileName'";
$result = $link->query($query) or die("Error : ".mysqli_error($link));
while($row = mysqli_fetch_array($result)) {
    if($row['filename'] == $fileName) {
        $fileExistsFlag = 1;
    }
}
// Allow certain file formats
if($imageFileType != "jpg" && $imageFileType != "png" && $imageFileType != "jpeg"
&& $imageFileType != "gif" ) {
    echo "Sorry, only JPG, JPEG, PNG & GIF files are allowed.";
}
```

This is the PHP function that uploads all of the image details and validates the images that are being entered into the database. As you can see there are no syntax errors detected in the code.

Rating.php

PHP code syntax check

Related Links

Check your PHP syntax online. It can check both PHP4 and PHP5 for errors.

version: php-4.4.9 php-5.2.17 php-5.3.21 php-5.4.28 php-5.5.12
 php-5.6.6

www.piliapp.com says:
No syntax errors detected in CODE

Prevent this page from creating additional dialogs.

```
}elseif
    $like = $prev_like;
    $dislike = ($prev_dislike + 1);
    $return_count = $dislike;
}

//store update data
$data = array('like_num'=>$like,'dislike_num'=>$dislike,'modified'=>date("Y-m-d H:i:s"));
//update condition
$condition = array('id'=>$_POST['id']);
//update tutorial like dislike
$update = $files->update($data,$condition);

//return like or dislike number if update is successful, otherwise return error
echo $update?$return_count:'err';
}
?>
```

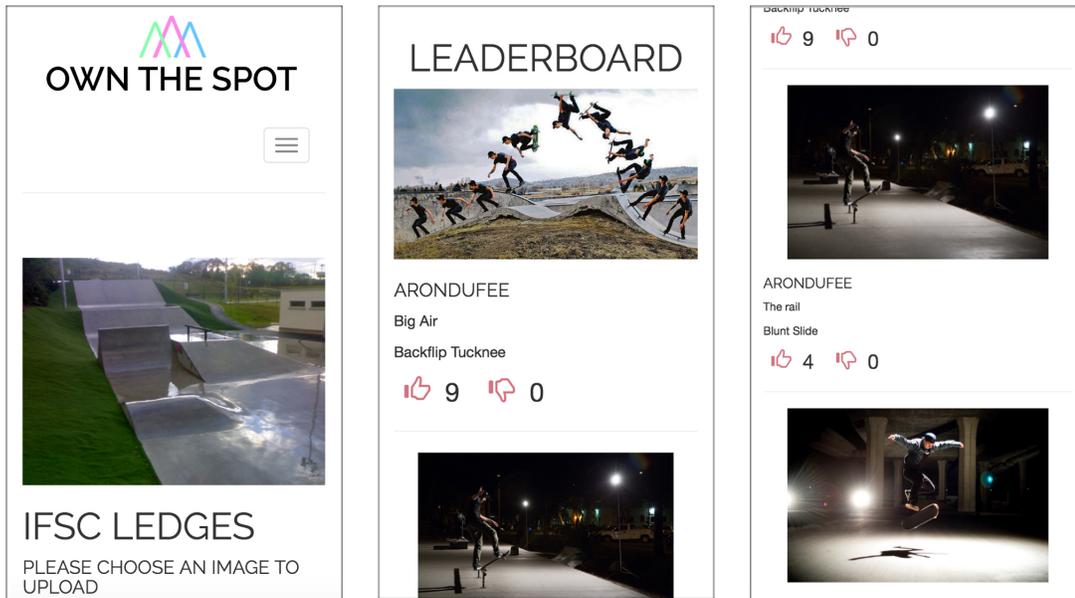
- [javascript validator](#)
- [MySQL Syntax Check](#)
- [Regex Tester](#)
- [Compress JS and CSS](#)

The final main function within the application is the rating function. This adds and updates the “likes” on the leaderboard in real time. As you can see there are no syntax errors detected in the code.

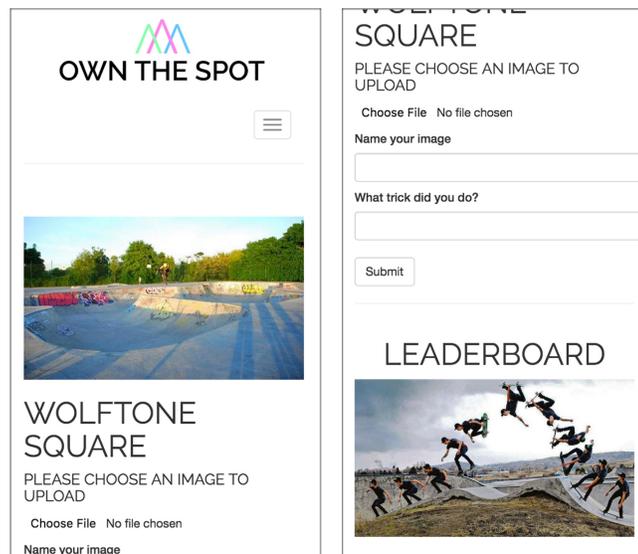
System Testing

To test the system I used a number of different browsers and devices. These include, Safari, Chrome, iPad, iPhone 5, iPhone 6, iPhone 6 plus, Galaxy S5, Nexus 5X, and Nexus 6P. I will now display screenshots indicating which device is in use.

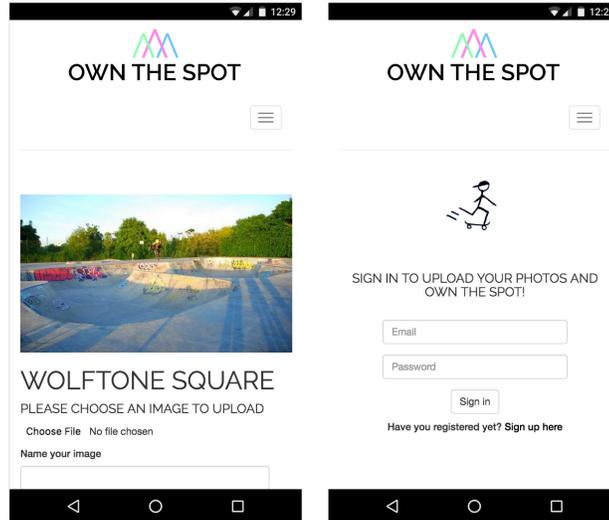
iPhone 5



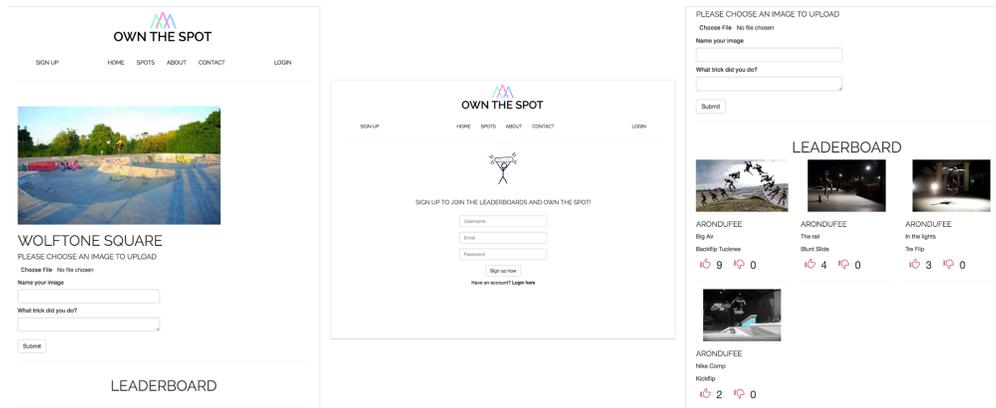
iPhone 6/iPhone 6 plus



Nexus 5X



iPad Portrait/Landscape



Chrome



OWN THE SPOT

[SIGN UP](#)

[HOME](#)

[SPOTS](#)

[ABOUT](#)

[CONTACT](#)

[LOGIN](#)



WOLFTONE SQUARE

PLEASE CHOOSE AN IMAGE TO UPLOAD

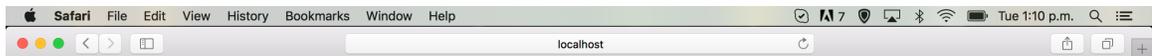
No file chosen

Name your image

What trick did you do?

LEADERBOARD

Safari



OWN THE SPOT

[SIGN UP](#)

[HOME](#)

[SPOTS](#)

[ABOUT](#)

[CONTACT](#)

[LOGIN](#)



WOLFTONE SQUARE

PLEASE CHOOSE AN IMAGE TO UPLOAD

no file selected

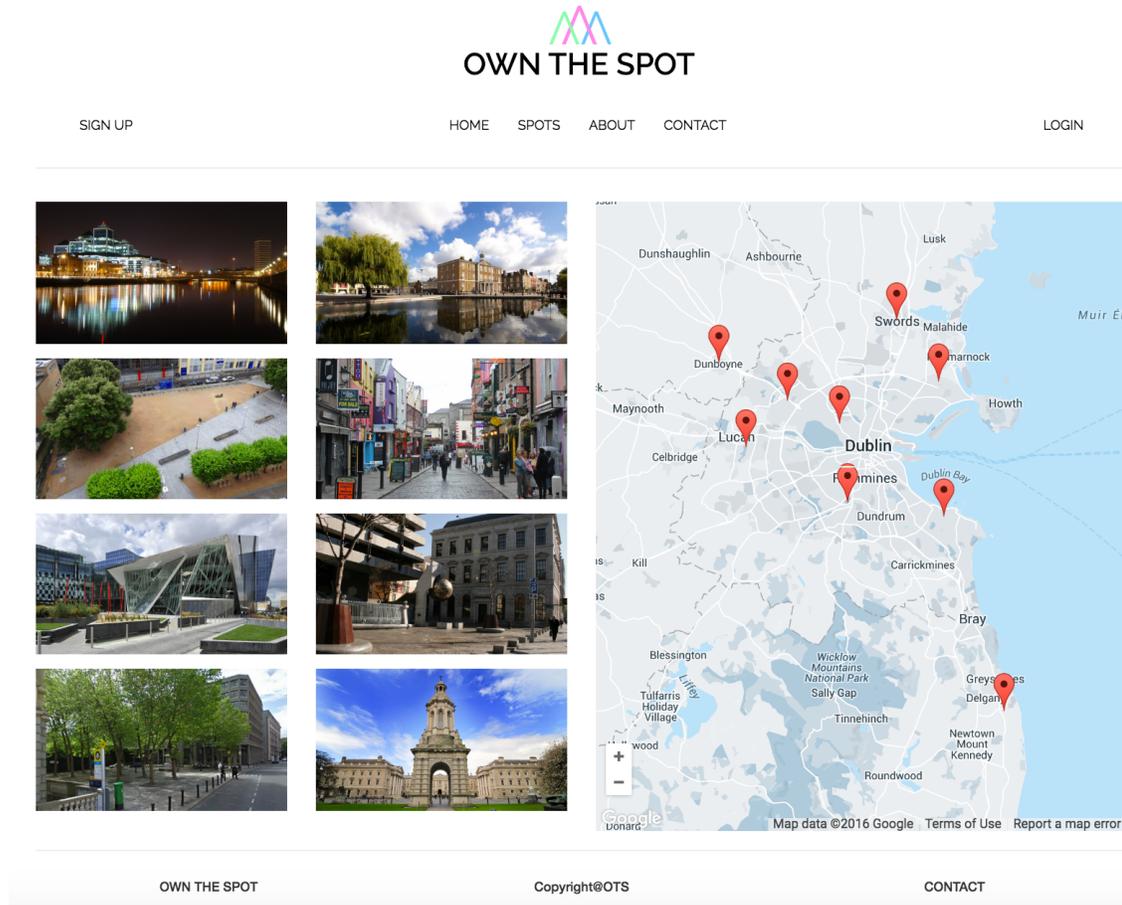
Name your image

What trick did you do?

LEADERBOARD

2.5 Graphical User Interface (GUI) Layout

Index.php



Spots overview page, app displaying different skate spots in Dublin on map. User chooses which spot to view. I chose to layout the spots and the map side by side to reduce the amount of scrolling the user has to do. In this layout the user can easily see each spot on the map which correlates to the image to the left.

Portobello.php



OWN THE SPOT

SIGN UPHOME SPOTS ABOUT CONTACTLOGIN



PORTOBELLO

PLEASE CHOOSE AN IMAGE TO UPLOAD

No file chosen

Name your image

What trick did you do?

LEADERBOARD



ARONDUFEE
Big Air
Backflip Tucknee
👍 9 🗨️ 0



ARONDUFEE
The rail
Blunt Slide
👍 5 🗨️ 0



ARONDUFEE
In the lights
Tre Flip
👍 3 🗨️ 0

Spot page, this is where the user can upload their image to the leaderboard. Users can then view the uploaded images and vote for their favourite trick.

2.6 Customer testing

To test the application with potential customers, I brought the beta version to my local skate shop and spent the day getting customers to use the application. I gave the customers a list of tasks to complete and then fill out a quick evaluation of the app after finishing.

After retrieving the results from the customers I would then be able to gauge how well the application actually functions, and at the same time test the app on different devices and browsers. Here is the list of tasks the customers had to complete:

- Register
- Login
- Upload an Image
- Give an Image a rating
- Logout

2.7 Evaluation

Here are the evaluations from the first 10 customers that tested the application while being demoed at the skate shop.

Tester #1

Name: Jordan Connolly

Age: 17

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 8/10

Were there any tasks you found hard to complete? No

What device did you use the app with? iPhone 4

Tester #2

Name: Harry Scott

Age: 19

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 10/10

Were there any tasks you found hard to complete? No

What device did you use the app with? iPhone 6

Tester #3

Name: Dan Duffy

Age: 25

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 7/10

Were there any tasks you found hard to complete? Yes, took some time to find logout button.

What device did you use the app with? MacBook Pro. **Browser** – Chrome

Tester #4

Name: Fran Doran

Age: 21

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 9/10

Were there any tasks you found hard to complete? No

What device did you use the app with? iPhone 6

Tester #5

Name: Jake Ryan

Age: 20

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 8/10

Were there any tasks you found hard to complete? No

What device did you use the app with? Galaxy S4

Tester #6

Name: Derek Johnson

Age: 32

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 6/10

Were there any tasks you found hard to complete? Yes, logout button was not displayed correctly.

What device did you use the app with? MacBook Air. **Browser** – Safari

Tester #7

Name: Kyle Corcoran

Age: 21

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 10/10

Were there any tasks you found hard to complete? No

What device did you use the app with? Nexus X5

Tester #8

Name: Mark Nugent

Age: 23

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 9/10

Were there any tasks you found hard to complete? No

What device did you use the app with? iPhone 6 plus

Tester #9

Name: Cass Du Berry

Age: 28

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 7/10

Were there any tasks you found hard to complete? No

What device did you use the app with? iPhone 5S

Tester #10

Name: Luke Howlin

Age: 37

Number of tasks completed: 5/5

Did the functionality of the app work appropriately? Yes

Rate out of 10 the functionality of the application. 9/10

Were there any tasks you found hard to complete? No

What device did you use the app with? Samsung Galaxy S6

As you can see from these evaluations, all users were able to complete each task and navigate through the application successfully. The only issue some had was locating the logout button. I have taken that into account and changed where the button has been displayed.

3 Conclusions

Overall I have thoroughly enjoyed developing this project. I have learned a lot of new skills that I feel will help me in the future. While developing this app I worked with languages and API's that were totally new to me, I now feel a lot more confident with languages such as PHP and Javascript. I think the main advantage to doing this project for me, was that it proved that it is possible, and that I am capable of developing a commercial application on my own, within a reasonably short space of time. I had to be disciplined and keep up to date with my work so that I could complete the project on time. I feel as though I handled my time management well and put in enough work to gain a good mark from this project.

4 Further development

In the future I would like this project to be used all over the world not just in Dublin. There are many more functions that I would like to have implemented into the application but in the end I did not have the time or resources to do so. For example, I would have liked to create a function where users can add their own skate spots to the map, which would then enable users from around the world to use the app not just people who travel to Dublin.

I could also see this application being used by companies such as Redbull or Monster Energy to promote their brand. They could hold competitions within the app at a different skate spot each week. I feel skateboarders would be extremely excited about this and it would be advertised to a lot of people worldwide.

5 References

PHP 5 Tutorial. 2016. *PHP5 Tutorial*. [ONLINE] Available at: <http://www.w3schools.com/php/>. [Accessed 10 May 2016]

Codecademt. 2016. *PHP | Codecademy*. [ONLINE] Available at: <https://www.codecademy.com/learn/php>. [Accessed 10 May 2016].

6 Appendix

6.1 Project Proposal

6.1.1 Objectives

The objective of this software project is to create a competitive social media web application for skateboarders with the scalability to work on phones, tablets, laptops and desktops. Users should be able to sign up to the application, create a profile and upload short videos of themselves skating at the famous skate spots around Dublin. Other users can then vote on their favourite videos from each skate spot allowing the skater with the highest voted trick to “Own the spot”.

As the industry of skateboarding is becoming more and more competitive, my objective with this application is to add a totally new edge of competitiveness to the sport. It allows skaters who aren't sponsored or known to show how good they are at the same skate spots the professionals are skating, and letting the public and other skaters determine who has landed the most intricate trick at each individual skate spot.

I feel users of this application will enjoy this new form of friendly competition resulting in skaters progressing and doing bigger and better tricks.

6.1.2 Background

I got my first skateboard when I was 12 and have been skating on and off ever since. I came up with this idea a few months ago while playing the xbox 360 game “Skate 3”. In the game there is a mode called “King of the street”. To win the game you have to out-trick your opponents and land the most technical, highest scoring trick on the same skate spot (e.g. a set of stairs, bench, ramp etc...) within 15 seconds.

I had been trying to come up with ideas all summer for this project and it hit me while playing the game that it would be great if I could turn “King of the street” into reality.

As a skater myself, there has always been competitiveness between friends down at the skatepark, with everyone trying to do bigger and more creative tricks than the rest. I feel this application will allow for even more creativity and competition, resulting in skaters progressing faster and getting better (which is addicting). There is also the gratification side of things, where the more likes you get the better you feel the trick is. People love getting ‘likes’ on their videos and photos, so hypothetically, people will be willing to try better tricks to impress the rest of the skaters.

As you can see, this app, if made correctly, could play a role in adding a whole new dimension to amateur and professional skateboarding industry.

6.1.6 Technical Details

The mobile friendly web application is going to be built using the Bootstrap framework. I have chosen Bootstrap because I am very familiar with it as I have built many sites using this framework before.

I am also going to use PHP and MySQL to implement the video file upload and display on my web pages.

The like system is going to be integrated using PHP, MySQL and JQuery.

I have chosen not to build an Android or iOS app as I have no experience with building mobile applications and feel I will still be able to create a web application that will justify my idea.

6.1.7 Evaluation

I will evaluate the project by receiving feedback from users of the app which will then lead to a better understanding of what needs to be improved on. There is also a local skate shop in my town where I can present it to the owners who have many years of experience within the skateboarding industry and get their insights into what skateboarders like and dislike. I may also be able to leave a test version in the shop so any customer that comes in can test out the app, fill out a survey and leave their feedback so I can update the app to suggestions of the skaters that will be using the application.

A handwritten signature in black ink, appearing to read "James Dully". The signature is written in a cursive style with a large, stylized initial 'J'.

29/09/15

6.2 Monthly Journals

6.2.1 Reflective Journal - September

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: September

This month started off with me deciding on a final project idea, I had come up with a couple of ideas over the summer and finally chose the project I wanted to continue on developing. I had discussed the project with peers, their reactions were good and I felt this was the idea I was most interested in.

This month I have been researching different ways to complete the project to the standard I would like. I have seen some solutions to the problems I will face but they have not yet been tested so I don't know for certain if any will actually work. I have also been compiling a list of different links to tutorials and information that I think will help me, I feel this will come in handy in the future saving me time on searching for different information.

The main deliverable this month was the project proposal, I spent two days putting my idea on paper. The proposal consisted of an explanation of the objectives, background, technical approach, a project plan (gant chart), technical details and evaluation. This really helped me get to see how the project was going to work as a web application. The project plan was also very helpful making me map out exactly when I have to get each part done, giving me structured deadlines.

Regarding the supervisor meetings, we have not yet received our supervisor details as we just submitted the project proposals this month. Thus resulting in filling out no information below.

6.2.2 Reflective Journal - October

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: October

This month I have been working on the requirements specification for my project. This consisted of writing in detail the technical specifications my project should have, creating use cases for the functional requirements and designing GUI mock-ups.

I have also been researching different ways I can have users upload videos for my site. So far I have a few ideas that include using the Instagram API to display user video using the geo location tags or using YouTube API to upload from my site to YouTube, then display the YouTube videos back on to the website. I think the Instagram API would be easier but I don't know if it will be complicated enough for the project. I am also debating scrapping the videos as I wanted to be able to upload the videos to my own database but after discussing with my supervisor we decided with would not be efficient because the database would be too heavy.

At this moment in time I have just about finished the requirements specification and I'm working on the design of the application.

Supervisor Meeting

Date of Meeting: 21/10/15

Items discussed: Project Explanation, Video Upload.

Action Items: Start designing and building site.

6.2.3 Reflective Journal - November

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: November

To be totally honest, this month has not been very productive in terms of the Software Project. I have had a lot of other project work to do over the past month which made me lose momentum on the application.

What I have done this month is just a bit more research into the Instagram API, I feel that this is the best way to complete the project and it will let me do more complex things in other areas of the application.

Once this semester is over, I plan to start work on the web application on the lead up to Christmas, as I will have some time off from other areas of college work.

Supervisor Meetings

Date of Meeting: 2/12/15

Items discussed: Current work done.

Action Items: Complete what you can do now then we will discuss what to do next.

6.2.4 Reflective Journal - December

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: December

During December I started work on the basic prototype layout for the web app. This consisted of writing the HTML and CSS using Bootstrap to create a responsive layout. This part of the app I really enjoyed as I was able to get creative.

Another task I set myself was to design the logo for the app. I used Adobe Photoshop to design this. I wanted to create a sleek and simple looking logo that would match the design and layout of the site. Here are the samples:



OWN THE SPOT



OTS

6.2.5 Reflective Journal - January

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: January

During this month I got to work on the functionality of displaying images and video within the app. I had been doing research on using the Instagram API as I felt it would be really cool to display the media using hashtags that were assigned to each skate spot.

As I was researching I found a Javascript plug-in called instafeed.js. This allowed me to easily implement my idea of displaying Instagram images and video on to my site using a certain hashtag. It also allowed me to display the images in order of likes which was exactly what I wanted.

6.2.6 Reflective Journal - February

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: February

This beginning of this month was spent preparing for the mid-point presentation. I began designing the presentation and formatting the presentation into the most compact and practical way, to get the information across.

I also began work on the main technical report, this consisted of filling out the template given on moodle.

6.2.7 Reflective Journal - March

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: March

This month was spent rewriting the main functions from scratch as Instagram have changed their policies with the API. I now have to use PHP to create and image upload/display function which uploads the images into a file on the server then saves the file path into the database. I have been looking at different tutorials to get a grasp on what I need to do, stack overflow is helping a lot.

I have also implemented a user login and registration which I originally thought I wouldn't need because I was using the Instagram API. This allows me track the users that are uploading different photos by their usernames.

6.2.8 Reflective Journal - April

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: April

This month has been spent figuring out how to build a like system the same as Instagram. I currently have the buttons and functionality implemented but it is not working the way I want it to and I can't figure out why. At the moment images can only be liked once which is not what I want to happen at all. Hopefully I'll figure it out within the next couple of days.

Another task I set myself was to start making the application look pretty. I want it to have a clean and simple look that is easy to navigate through.

Supervisor Meeting

Date of Meeting: 19/04/16

Items discussed: Project so far, is there much more to complete.

Action Items: Finish off like system.

6.2.9 Reflective Journal - May

Student name: Aaron Duffy

Programme: Bsc in Computing

Month: May

This month was spent putting the finishing touches to the app and completing the project report. I have enjoyed this process because I think designing the aesthetics of the app is my favourite thing to do.

To get the final images for each skate spot actually skated around Dublin to each spot and took the photos myself which I feel is a nice touch to the app. I also spent time drawing little animated skateboarders to put on the app when a user completes a task or an error happens.

Supervisor Meeting

Date of Meeting: 9/05/16

Items discussed: Grading Rubric, project demo, project report.

Action Items: Complete project report and email it back.