

**Institute of Technology Carlow Software Development**

**Research Document**

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# Abstract

# Introduction

The goal of this project is to develop a cross platform application based on the already existing L.E.T.S. system. The application can be used to xyz. The application will allow users to register a profile and login, search for jobs and offer their services.

This report will detail the research that has been carried out to facilitate the development of the application. It will focus mostly on the technologies to be used to develop the application including front-end, back-end and hosting technologies

# L.E.T.S as a system

What is a L.E.T.S system?

L.E.T.S (local exchange trading system) is a facilitate exchange of good or services between community members.

# Existing Systems

|  |  |
| --- | --- |
| Name: | Odd Jobs |
| Type: | Application |
| Device: | Android Smart Phone |
| Available From: | Play store |
| Downloads: | 10,000 + |
| Rating | 2.5 |
| Created by: | Sage Nyong |

|  |  |  |
| --- | --- | --- |
|  |  |  |
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|  |  |
| --- | --- |
| Name: | Near Jobs |
| Type: | Application |
| Device: | Android Smart Phone |
| Available From: | Play store |
| Downloads: | 10,000 + |
| Rating | 2.8 |
| Created by: | Near Jobs Inc |

|  |  |  |
| --- | --- | --- |
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|  |  |
| --- | --- |
| Name: | Fiverr – Freelance Services |
| Type: | Application |
| Device: | Android Smart Phone |
| Available From: | Play store |
| Downloads: | 1,000,000 + |
| Rating | 4.6 |
| Created by: | Fiverr |

|  |  |  |
| --- | --- | --- |
|  |  |  |
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Likes and dislikes of sample applications

|  |  |
| --- | --- |
| Name: | Odd Jobs |
| Likes | Dislikes |
| Colour scheme | Forced use of location |
| Side form | Slow to load |
| Free to download | Maps not loading correctly |
|  | Zoom out feature not working |

|  |  |
| --- | --- |
| Name: | Near Jobs |
| Likes | Dislikes |
| Colour scheme | Slow to load |
| User Interface | Crashes regularly |
| Good log in features |  |
| Sort by job |  |
| Sort by category |  |
| Free to download |  |

|  |  |
| --- | --- |
| Name: | Fiverr – Freelance Services |
| Likes | Dislikes |
| Colour scheme | Cost to post a job |
| Excellent User Interface |  |
| Login with Facebook(optional) |  |
| Advanced sort and search and filtering |  |
| Responsive |  |
| Free to download |  |

# Backend

What way will I use to store the information returning from the application?

## SQL

Option 1.

|  |  |
| --- | --- |
| Name: | Maria DB |
| Developed By: | Community Developed fork of MYSQL |
| Cost: | Free |

Option 2.

|  |  |
| --- | --- |
| Name: | MYSQL |
| Developed By: | Oracle Corporation |
| Cost: | Free |

Advantages of using SQL: Structured, free, good documentation, good tutorials, large community of users for trouble shooting, fast data retrieval

Disadvantages: Could be difficult to structure the data coming back from an app, not necessarily real time

## NO-SQL

Option 1.

|  |  |
| --- | --- |
| Name: | Firebase |
| Developed By: | Google |
| Cost: | Free (Community Edition) |

Option 2.

|  |  |
| --- | --- |
| Name: | MongoDB |
| Developed By: | MongoDB Inc. |
| Cost: | Free (Community Edition) |

Advantages of NO-SQL: Structured, free, good documentation good tutorials, comes in human readable formats like JSON

Disadvantages: More time to structure the data correctly for retrieval

# Frontend

## Platforms

Which platforms do I intend my project to run on?

1. P.C.
2. Tablet
3. Mobile (Android + Apple)

## Development

1. Ionic

What is Ionic?

Ionic is an open-source SDK (Software Development Kit) for hybrid mobile app development. It was released in 2013 and built on top of AngularJS and Apache Cordova. It has a similar syntax to the Angular framework and is developed by Google.

1. Html5

What is Html5?

HTML5 is a mark-up language used for structuring and presenting content on the web. It is the fifth and current major version of the HTML standard. This framework is used to display content on the web.

1. CSS

What is CSS?

CSS is the language for describing the presentation of Web pages, including colours, layout, and fonts. It allows for the presentation to different types of devices, such as large or small screens. CSS is independent of HTML and can be used with any XML-based markup language.

1. Bootstrap 3

What is Bootstrap3?

Bootstrap is an open-source framework for designing websites and web applications. It contains design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions.

1. Type Script

What is Type Script?

TypeScript is a free and open-source programming language developed and maintained by Microsoft. It is a strict syntactical superset of JavaScript, and adds optional static typing to the language. Anders Hejlsberg, lead architect of C# and creator of Delphi and Turbo Pascal, has worked on the development of TypeScript.

1. JavaScript

What is java script?

JavaScript is most commonly used as a client-side scripting language, the code is written into HTML pages. When a user requests an HTML page with JavaScript in it, the script is sent to the browser and it's up to the browser to do something with it.

1. Python

What is python?

Python is an interactive object-oriented programming language. Used a lot with data science. Relatively easy to work with and has many useful imports available. Web apps can be created with the flask module.

1. Android Studio​

Android Studio is an IDE developed by Microsoft for Android development. Applications can be developed in Android Studio and tested or displayed in the built in emulator. Applications created in android studio are native, which means they can only be ran on Android devices. If you wished to have the device run on other devise such as windows or different platforms like iOS the code would have to be rewritten which makes the multi-platform development more expensive in both time and munerty terms.

1. Angular

What is Angular?

AngularJS is a structural framework for dynamic web apps. It lets you use HTML as your template language and lets you extend HTML's syntax to express your application's components clearly. AngularJS's allows for data binding and dependency injection.

What I intend to use.

Ionic2

I will use the Ionic 2 frame-work to develop this application.

Reasons for my choice

* Documented (each of the technology’s used)
* Tested (been around for a while apps already created)
* Supported (large git community)
* Structured (frame work is defined and should be easy to follow)
* Forced Typing of variables (Typescript)
* Developed by Google (so problem not going anywhere)
* Uses familiar technology’s such as (Html5, CSS, Bootstrap3 and Typescript)
* Most of the code can be reused for web-apps(Angular framework)
* Ionic can be unit tested (Jasmine)
* Can be compiled into and android and IOS SDK (cross platform)

# Tools

Process management dfaq is this

Document management probably git

Version control git obviously

Testing jasmine testing framework for

# Conclusion

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