#### 

Staff Contact Management

Proposal Report

Red Opal Innovations

Version 1

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# Determine user needs

## 1. Business area

This project is to provide an application for Human Resources department with the functionalities that enable HR to manage the contact information of ROI staff.

## 2. User requirements

The functionalities include retrieving, inserting, updating and deleting the contact information records. The application must be available in two platforms, which are web-based version and mobile version, especially on Android phones and tablets.

In order to run on both platforms, XML documents are used to store contact information because it separates from data from presentation. As we are running the application on both the web-based version and the mobile version, XML will be a good solution for storing the data. Xamarin is used for the development of the application due to its cross-platform framework, using .NET and C#. In terms of frontend development, particularly, mobile version, graphic user interface must provide features that allow users to easily access.

## 3. Impact of system environment

As the nature of the screen of most mobiles is smaller than tablets and desktops, the display of the mobile version must be well organised and easy to navigate. Some features will be provided for users to enlarge and reduce the font sizes, to change colours of the background to support the accessibility of all functions.

The screen of mobiles and tablets is able to display both on portrait and landscape, for this reason, the application must support the rotation of display of both two different orientations.

## 4. Target platform for mobile devices

Android phone, iOS for iPhone, and Window phone are the three major platforms for mobile devices, however, the target platform for the mobile devices of this project is the Android.

## 5. Development environment

As the Android is the main mobile platform used for this application, there are a few Integrated Development Environments that are available, such as Visual Studio, Visual Studio Code, Android studio, etc. The comparison between Visual Studio and Visual Studio Code, which are both Microsoft products, will be made in this report.

### Integrated Development Environments

#### Visual studio

Visual studio uses Microsoft software development platforms like Windows API, Windows Forms, etc. so it is easy for developers to use some of these technologies in both Web and Mobile versions. It offers inteliSence, which makes the development process faster as it auto-completes syntax, auto-generate function definitions, imports modules, and highlighted mistakes. Xamarin is included in Visual Studio. It provides the emulators that can test the applications.

It provides the ability to inject code while running applications, to break at any certain points in the applications, and interactive console to observe the values of variables.

It is easy to deploy. Microsoft Azure is used for the deployment, which allows the applications built with different programming languages to run on the same site. As this project is part of a larger ROI project, Visual studio will make it easy to integrate with other parts of the ROI project.

#### Visual studio code

Visual studio code is a free IDE environment that can run on Windows, Mac, and Linux, and is under MIT license. It can be used with a variety of programming languages. It allows users to open code one or more directories rather than using a project system, which can be reused in the future.

### Evaluation

Xamarin is included in Visual Studio so it enables mobile development and make it easy to create user interface. Visual Studio provides the emulator feature, which helps the development progress quicker.

Visual Studio Code can be configured to be quite close to an IDE for many programming languages, however, Visual Studio very well supports the test of the application, while Visual Studio Code has more than 10 test-driven development extensions for its code.

### Recommendation

Visual Studio is recommended for this project development because of its features provided are related to the development, such as debugging and team collaborative features, emulators, Xamarin ready feature.

## 6. Style consistency

The style and look and feel of this project will be based on ROI style guide, Android design guidelines, and industry standard to make the consistent design with the ROI styles. The user interface, different orientation must be responsive in accordance with Android design guidelines. Accessibility, such as colours, contrast, readability, are taken into consideration to support the company’s Diversity and Inclusion policy. The implication of ensuring that these guidelines will be followed is the differences of sizes and orientations of the screen, which require the developers to implement and test on a variety of devices.

## 7. Formats for application interface

### Querying the data

XML is to be used for storing all the staff contact details for retrieving, adding, updating, and deleting from.

Web-based version

TextBox control will be used to accept data from users through a web form. Button control will be used to get the command from the users whether the record must be inserted, updated, or deleted.

#### Mobile version

Entry control will be used to accept data from users through the screen of a mobile device. Similarly, to the Web-based version, buttons will be used for getting a command from the users.

### Displaying reports

#### Web-based version

Table is to be used for displaying the output.

#### Mobile version

StackLayout is to be used to control the display on any mobile devices.

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## 9. Sign-off

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| Name | Position/role | Date | Signature |
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