Lab 1 – RocStar Product Description

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Version 2
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Introduction

The customer, the Roc Solid Foundation (RSF), has commissioned Team Orange to create an application, RocStar, to help them make their company more efficient through technology. The Roc Solid Foundation is a charity organization (Roc Solid Foundation, n.d.) that provides comfort and assistance to families whose children are suffering from cancer and the children suffering from cancer. RSF does this by doing build projects and supporting the families of children who are suffering. RocStar will facilitate communication and scheduling between RSF staff, RSF volunteers, the families of children suffering from cancer, and the hospital staff who refer families to RSF.

The Roc Solid Foundation faces many hurdles when performing their philanthropic duties. RSF is currently using email and fax machines for hospital staff to communicate and transmit referrals. The staff at RSF has to manually input referrals into NeonCRM. NeonCRM is a customer relationship management (crm) system designed to help coordinate items with charities. There are no automated reminders for events or notifications for families who may need RSF’s assistance.

There are many ways RocStar intends to solve the problems RSF has. Providing a mobile support solution via an Android and Apple application will allow RSF to facilitate communication with all those involved with RSF operations. The application will be integrated with NeonCRM so that referrals will automatically be entered. RocStar will incorporate an alert/notification system so RSF staff will be alerted to new referrals and events. The app will
help RSF organize events. It will also include digital forms and signatures so forms have the option to be filled out on the app.

2 Product Description

The product, RocStar, will be an app, available on Android, iOS, and as a website, designed to assist RSF in functioning as efficiently as possible. The application will make forms available to users. RocStar will provide checklists for volunteers and team leaders. The app will provide documents relevant to relevant users. The goal of RocStar is that it will be easy enough to use so that it will be intuitive and anyone with experience using a smart phone should not need any instructions on how to properly use the app. The integration with NeonCRM will handle automatically updating records held by RSF in order to make sure that as much labor as possible is focused on helping people and not on busy work. The app will also host a communication system that will allow RSF to communicate system so users can stay in touch with each other. The app will allow staff and team leaders to organize event times, dates, and notifications.

2.1 Key Product Features and Capabilities

RocStar is a website application, Android application, and iOS application. This application, known as RocStar, will help RSF achieve its goals. RocStar will provide availability to different features dependent on who is using the app.

RocStar will have a communication system built into the app. This will come in multiple forms. Families will have access to online forums so they can support other families and tell their stories to give inspiration to other families. Everyone will have access to an instant message system that will allow people to communicate in real-time. There will be an alert notification system built into the app so that new referrals can be addressed as soon as possible. The notification system will also alert staff and volunteers of new projects.
RocStar will help coordinate the efforts of RSF during build projects. The app will allow RSF staff and team leaders access to the project map portion of the program; which will allow them to create and edit projects. This will allow a project creator to send alerts to volunteers so they can sign up for the project.

RocStar will automatically enter a referred family’s information into NeonCRM. NeonCRM is a customer relation management system designed for use by non-profit charity organizations to help organize information and better assist organizations like RSF in their philanthropic work. The app will use APIs provided by NeonCRM to automatically enter information filled out on forms to be entered into the database NeonCRM maintains.

### 2.2 Major Components (Hardware/Software)

RocStar will be accessed by users with either an Apple device, Android device, or through the website. Once RocStar is accessed, they will be given information from servers based on the level of access granted to them by RSF staff. RocStar will utilize software from Apple and Android to develop the application. The file type Apple uses is .ipa files (What's an IPA File and How Do You Open One?, 2016) and Android uses .apk. (What is an APK file and how do you install one?, 2016)

SQL database server and a web server are major hardware components that are needed to operate the app. The application will use the web server to host the website version of the application. The SQL database server will house personal information such as contact information, name, access level (user type) and other relevant data.

The iOS version of the application will be programmed with Swift (Apple inc, 2017) while the Android version of the application will be programmed with Java and XML using the Android Studio IDE (“Android studio the official IDE for Android,” n.d.). Swift is the
programming language used to make Apple apps. This will allow us to create the wrapper that will access the website automatically allowing users to automatically login to their account from the Apple or Android device.

RocStar will use LAMP (Linux, Apache, MySQL, PHP) to manage data provided by users. This will give RocStar a very efficient system to store and protect user information entered in the app. Apache is the software will be used to maintain the website portion of the app. MySQL will be used to manage database information. PHP will be used to access information.

3 Identification of Case Study

RocStar is being specifically designed for use by the Roc Solid Foundation. The goal of RocStar is to provide RSF a stable, easy to use, and efficient app that will allow the RSF team to focus all their efforts on making life more enjoyable for the people they help. The app will enable users to communicate with efficiency. RocStar will provide coordination to RSF staff, volunteers, and families.

RSF has stated that they have issues with communication and coordination. Their communication efforts are limited to the usual means of contacting people such as email, text message, and phone calls. Coordination efforts are constrained to emailing or faxing forms and then manually inputting the form information into NeonCRM. All project information has to be transmitted by email. Figure 1 describes RSF’s current process flow.
Figure 1: Current process flow

The process flow in Figure 1 causes RSF to be less efficient than is ultimately possible. RSF has to devote more resources into updating NeonCRM. More time is spent managing projects than is necessary by RSF staff and team leaders. Multiple emails to different groups may cause confusion because different groups are getting the wrong information. Team members may be left out of a group email and not get the information at all.

The intended users of RocStar all have different needs which will be addressed in the app. There are five different user types that the app will help. These users are RSF staff, volunteers, team leaders, hospital staff, and the individual members of a family with a child suffering from cancer. The RSF staff need to have full access and control of all data and events
created by RSF. Volunteers need to have access to waivers, projects, and fundraising tools. Team leaders must be able to coordinate projects and have access to the same things volunteers have access to. Hospital staff needs an efficient way to keep track of ready bags and offer and submit forms to RSF. The family members need support from other families and RSF. The families need access to ways to reduce burdens their burden.

4 RocStar Product Prototype Description

The prototype for RocStar is intended to be a nearly complete product that RSF has commissioned Team Orange to create. The only difference between the prototype and the product will be the inclusion of a test user account. This test account will allow the tester to be able to modify the user level of accounts in order to quickly test different aspects of the program. Team Orange will be using a simulated database server to store information. After launch, RSF will need to have their own database server. Table 1 will describe different user account type differences.
<table>
<thead>
<tr>
<th>Accounts</th>
<th>RSF Staff</th>
<th>Team Leader</th>
<th>Volunteer</th>
<th>Hospital Staff</th>
<th>Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Ready Bags</td>
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<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Ready Bag Registration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Entertainment/ information</td>
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<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Online Store</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Donate Button</td>
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<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
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<td>X</td>
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<td>Calendar Events</td>
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<td>Project Checklist</td>
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<td>Push Notifications</td>
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<td>Schedule Events</td>
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</tr>
<tr>
<td>Manage Accounts</td>
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</tr>
<tr>
<td>Manage/View Documentation</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 User account access

The objectives of RocStar will be achieved by creating user types. The test account type will emulate any account type the user selects. The RSF staff will have overall control of RocStar. RSF staff will be given tools to most effectively serve their customers. The volunteer user type will be given tools to help volunteers better assist RSF in their goals. The team leader will be able to create and edit projects and also has volunteer level access. The hospital staff is a type of user who will send forms and keep track of Ready Bags. The family member user type will have access to the app that will help them communicate with RSF. They will be given functions that will ease their burdens.

There will be necessary risk management when working on the app. Primarily issues with completion of the app will use Agile development procedures to ensure that the work is
completed smoothly. (Beck et al., 2001) Rapid prototyping procedures will include customer input to ensure the application is what the RSF is looking for. One of the most important risks RocStar will face is in information security making sure RocStar does not expose user personal information to those not authorized to have it. RocStar needs to make sure only RSF staff have access to changing user types. RocStar must be fully compatible with both iOS and Android devices.

Simulating the use of RocStar will be a simple endeavor. This will be done by utilizing multiple test users set to simulate different account levels. RocStar will be able to demonstrate its ability to do everything by accessing each of these users simultaneously during a demonstration and show RSF that the program functions. The demonstration would use the project flow chart (see figure 2) to demonstrate how each user interacts with different events occurring. Simulated data will be entered by Team Orange to demonstrate the application. Due to the nature of RocStar, the simulation of the prototype can be done anywhere a Wi-Fi signal or mobile-internet is present.

4.1 Prototype Architecture (Hardware/Software)

The prototype architecture will consist of an application on an Android or iOS device. Swift will be used to program the iOS application version of RocStar, while the Android app will be programmed with the Android Studio IDE, using java and xml. These programs will be created on personal computers and kept synced on github.com. (GitHub, 2017) These programs will operate like a browser but enabling a user to instantly log into their user profile on RocStar. The prototype will use a ODUCS virtual machine to host the website and the database to store data. The ODUCS will simulate the real world website and database that RSF would use to integrate with this app.
4.2 Prototype Features and Capabilities

The RocStar prototype will have user profiles to demonstrate the practicality of the application. The test account type will act like any account type the user selects. The RSF staff will have access to edit data in various accounts and editing the user type of any user account in the system. The RSF staff user type will have the most access to information on the storage system, allowing them to view projects, create and edit projects, create and edit the event calendar, view hospitals associated with RSF including ready bag inventory, view volunteer and family profiles, send customizable notifications, and view documents. The volunteer user type will be able to view projects, use fundraising tools, submit a volunteer waiver, view the volunteer manual, view the project profile including an interactive project checklist, and edit and view their profile. The team leader is a sub type user of the volunteer user which has additional access to create and edit projects. The hospital staff is a type of user who will have access to inventory of Ready Bags, referral request status, and electronic referrals. The family member user type will have access to the family forum, a personalized family page, entertainment, and coupons. The prototype will allow new users to create an account and either a tester user or staff account to assign the new user account a user type as defined above.

The prototype will be fully function. This includes actual integration with NeonCRM (not simulated). The prototype will simulate database storage, an event calendar, and communication accessible by all users. The process flow for RSF after the application is implemented in Figure 2.
Figure 2: Future process flow
4.3 Prototype Development Challenges

In creating RocStar, Team Orange faces difficult challenges. Particularly, Team Orange has little to no experience integrating with NeonCRM. Team Orange has no experience developing iOS applications. These difficulties will be assuaged due to the numerous “how to guides” the internet has to offer; for example a YouTube video by Devslopes (developes, 2015) teaches users how to make a basic Android app. Using these online guides, Team Orange will have no issues creating RocStar.
Glossary

**Android Device:** Any electronic device which uses an Android operating system

**Android Studio:** An IDE used to program apps designed for Android devices

**Apache:** Apache HTTP server is a webserver software

**API:** Acronym for Application Programming Interface

**App:** An application

**Apple Device:** Any electronic device which uses an iOS

**CRM:** Acronym for customer relation management

**iOS:** A mobile operating system made by Apple for use with iPhone, iPad, and iPod

**Java:** An object orientated programming language

**LAMP:** Acronym for Linux Apache MySQL PHP

**MySQL:** Open source multi-user database management system

**NeonCRM:** A crm system designed to help coordinate resources with charities

**PHP:** A server side scripting language

**RSF:** Acronym for Roc Solid Foundations

**Swift:** A programming language used to make apps for iOS devices

**XML:** Markup language used to make a set of rules for displaying information
References


