Lab 2 – RocStar Prototype Specification

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Table of Contents

1 Introduction........................................................................................................................................... 3
    1.1 Purpose...................................................................................................................................... 6
    1.2 Scope....................................................................................................................................... 7
    1.3 Definitions, Acronyms, and Abbreviations ............................................................................... 8
    1.4 References ................................................................................................................................. 9
    1.5 Overview .................................................................................................................................. 9

2 General Description.......................................................................................................................... 9
    2.1 Prototype Architecture Description ......................................................................................... 10
    2.2 Prototype Functional Description ............................................................................................ 11

List of Figures

Figure 1. Current process flow ............................................................................................................... 5
Figure 2. Common access site map...................................................................................................... 11
Figure 3. Hospital staff user site map .................................................................................................. 12
Figure 4. Team leader/volunteer site map ........................................................................................ 14
Figure 5. Roc Solid staff user site map .............................................................................................. 15

List of Tables

Table 1. Current manual process of Roc Solid’s support to a family .................................................. 4
1. Introduction

To be successful in an increasingly connected world, fast and continuous communication and coordination is a must. Processes are becoming more automated as society strives to meet this demand. A lot of what humans used to do is now being done by machines, e.g. food ordering, banking, and customer support. Processes have been hastened due to this automation. Even with this automation, there are still times when human interaction is required. Sometimes the automation itself just seeks to make the human interaction easier when faced with a complicated task.

The benefits of automation do not only apply to businesses, but also to philanthropic efforts. One such philanthropic effort that could benefit from automation is the Roc Solid Foundation (RSF). The Roc Solid Foundation is an organization that assists families that have a child diagnosed with cancer. The support they offer is multi-faceted. Roc Solid provides families with ready bags through their “Solid Support” program (Roc Solid Ready Support Program). These bags contain essentials for the family’s hospital stay after their child is diagnosed with cancer. Through their “Play It Forward” program, Roc Solid also builds custom backyard play sets for pediatric cancer patients when they return home (Play It Forward, 2015). If the family does not have a backyard, Roc Solid will do a custom room remodel for the child. Roc Solid’s charitable actions are very important to the welfare and morale of these children. This is why the effort to make the process by which Roc Solid operates a faster and more efficient one is so crucial. Every year, over 15,700 children ranging in age between birth and 19 years old are
diagnosed with cancer in the US, and the average age of diagnosis is just six years old (Roc Solid Foundation Presentation, 2016).

The RocStar application’s goal is to improve upon Roc Solid’s amazing charity work. By automating some of Roc Solid’s communication and coordination flows, RocStar will provide the efficiency and reliability that the Roc Solid Foundation needs. The current process by which Roc Solid operates includes nineteen steps from first contact with the family until project completion, as outlined in Table 1. This table lists a process which could readily be automated for better communication and coordination.

<table>
<thead>
<tr>
<th></th>
<th>Current manual process of Roc Solid’s support to a family</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Application from Hospital</td>
</tr>
<tr>
<td>2</td>
<td>Contact Family</td>
</tr>
<tr>
<td>3</td>
<td>Meet/Skype Family</td>
</tr>
<tr>
<td>4</td>
<td>Family Waiver</td>
</tr>
<tr>
<td>5</td>
<td>Child Photo</td>
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<tr>
<td>6</td>
<td>Family Interview Questions</td>
</tr>
<tr>
<td>7</td>
<td>Pre-Build Report</td>
</tr>
<tr>
<td>8</td>
<td>Send Sponsor Packet</td>
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<tr>
<td>9</td>
<td>Send Volunteer Packet</td>
</tr>
<tr>
<td>10</td>
<td>Sponsor Agreement</td>
</tr>
<tr>
<td>11</td>
<td>Food Sponsor Agreement</td>
</tr>
<tr>
<td>12</td>
<td>Project Info Report</td>
</tr>
<tr>
<td>13</td>
<td>Order Lowes Material</td>
</tr>
<tr>
<td>14</td>
<td>Order Porto John</td>
</tr>
<tr>
<td>15</td>
<td>Order Limo</td>
</tr>
<tr>
<td>16</td>
<td>Confirm Hotel</td>
</tr>
<tr>
<td>17</td>
<td>Confirm Transportation</td>
</tr>
<tr>
<td>18</td>
<td>Order Table/Chairs</td>
</tr>
<tr>
<td>19</td>
<td>Confirm with Family on Activity</td>
</tr>
</tbody>
</table>

Table 1. Current manual process of Roc Solid’s support to a family.
Another aspect of Roc Solid’s current process flow, as illustrated in Figure 1, is their manual entry of vital information into their NeonCRM database, as well as the manual processes to collect said information for the database. Also seen in Figure 1, Roc Solid’s volunteer efforts for “Play It Forward” projects are in need of communication and coordination improvements to bolster overall productivity. With RocStar, some of these processes can be automated. This will allow the Roc Solid Foundation to better focus on their mission of helping these families in need. By automating the process from the very beginning, RocStar seeks to improve the lives of not only Roc Solid employees, but also the hospital worker, project volunteers, families, and most importantly the pediatric cancer patients that use Roc Solid’s services.

Figure 1. Current process flow. This figure illustrates the areas in which automation could be applied to the current process flow to facilitate coordination and communication.
1.1 Purpose

The purpose of the RocStar application is to give the Roc Solid Foundation better communication and coordination in their workflows. Enabling the Roc Solid Foundation to better communicate and coordinate will bolster their ability to assist their customers, the pediatric cancer patient and their families. RocStar will make possible an increase in effective cooperation by delivering the Roc Solid Foundation a mobile web software solution that addresses their requirement for timely information. This effective cooperation is accomplished through the ability to quickly and accurately communicate the needs of a patient to the Roc Solid Foundation, and then to coordinate efforts to bring assistance and hope to those patients.

RocStar will be free to download, and will be made available on Apple’s App Store and Google Play. RocStar will provide the Roc Solid Foundation with a web based application that seamlessly integrates with the company’s customer relationship management system, NeonCRM. This integration will assist in eliminating redundancies in workflows, and also allow Roc Solid to keep all important documentation and information in a central location. By keeping all information centralized, better security and ease of access will be bolstered.

The RocStar application will allow users to create accounts that will be vetted and then, if appropriate, given access permissions by Roc Solid’s Staff. These users will include the hospital support staff, Roc Solid staff members, team leaders, volunteers, and of course the patients and their families. Hospital support staff will be allowed access to the application’s referral forms to alert Roc Solid that they have a new pediatric cancer patient at their facility. They will also be given access to an order form to obtain Roc Solid ready bags for the families of
the children that are diagnosed with cancer at their facility. Roc Solid staff members will be given administrator privileges so they can effectively manage the applications access and control, as well as allowing them to communicate and coordinate at all levels of the application. Staff members will have the ability to send out push notifications to application users and create projects for the Foundation’s “Play It Forward” campaign. Team leaders will be able to coordinate with volunteers, and also manage the projects to which they are assigned. Volunteers will have information on upcoming projects in their area and access to an event calendar for coordination of efforts. Patients and their family will have access to the family pages of the application. These pages will provide helpful information and moral support for them as they progress through their difficult journey.

The above functionality will be included in the RocStar prototype, minus the family page functionality which will be included in the release version of the application. The RocStar application is not designed to diagnose any medical condition. The application will not share user data with third-party entities, nor will it automatically add, or delete, users from its roles. Confidential information that is passed through the application will be given by the patient’s family after a waiver form is signed between them and the Roc Solid Foundation, and it will not be shared with any other party.

1.2 Scope

The main goal of the RocStar application is to improve coordination and communication for the Roc Solid Foundation’s philanthropic efforts. It will accomplish this by automating some workflows for RSF. This will build a better network of support for RSF workers and for their
customers. The application will also promote the Roc Solid Foundation by increasing their online presence. RocStar’s goals include: providing up-to-date information, better serving families of pediatric cancer patients by connecting them with readily accessible resources, provide volunteer awareness, bolster volunteer participation on “Play It Forward” projects, and ensure secure transmission, and storage, of sensitive information.

1.3 Definitions, Acronyms, and Abbreviations

Apache2 Web Server – Software for hosting the web server

API (Application Programming Interface) – A set of rules and specifications that software programs follow to communicate with each other.

CRM (Customer Relationship Management) software – This type of software consolidates customer information and documents into a single database so business users can more easily access and manage it.

CSS (Cascading Style Sheets) – Language for formatting content displayed on a web page

Firebase – Modular web-based tools designed for use in building software applications

HIPPA (Health Insurance and Portability Act of 1996) – United States Act that provides data security for medical information

HTML (Hyper Text Markup Language) – Language for web development

MySQL – An open-source relational database management system

NeonCRM – CRM software used by Roc Solid Foundation

PHP – Server scripting language

RSF – Roc Solid Foundation

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1.4 References


1.5 Overview

This product specification will provide the configuration for the software and hardware components that will be utilized to create the RocStar application prototype. It covers information regarding external interfaces, capabilities, and features associated with RocStar. The objective of this specification is to outline the goals and purpose of developing the RocStar mobile application, and to provide pertinent information of how to accomplish those set goals.

2. General Description

The RocStar prototype will incorporate a lot of the major features that are going to be a part of the “real-world” release. The prototype will show the ability to create and edit a RocStar user account. The prototype will demonstrate the ability to send and edit push notifications. Creation, editing, and submission of referral forms will be available in the prototype. The functionality to create and edit user RSF staff “Play It Forward” projects, as well as checklists for the projects will be demonstrated. Unlike the real-world release, the prototype will not implement family pages, a calendar of events, or the “tester” user role.
2.1 Prototype Architecture Description

The RocStar prototype will be a web-based application that is run on server residing on an ODU virtual machine. The prototype will be presented on both an iOS and Android platform for the presentation. The application will be available for download from the App Store for Apple users, and from Google Play for Android users.

The prototype will allow a user to create and edit an account. Once an account is created, the user will be assigned permissions within the application based on their affiliation with Roc Solid. There will be five distinct user types available in the prototype, each with separate levels of permissions. The five user types will be: Roc Solid Foundation staff members, Hospital support staff, Roc Solid team leaders, project volunteers, and patient family. Once a user is assigned to a user group, they will have the ability to display relevant information about their account type.

The prototype will demonstrate the ability for hospital support staff members to complete an electronic referral form. This form puts Roc Solid in touch with a new pediatric cancer patient’s family. This is the gateway that gets Roc Solid involved in the child’s life.

Roc Solid Foundation staff users will have the ability to initiate a project for the child once the referral form is complete. They will be able to select whether the project will be a room remodel, backyard playset, or if an iPad will be given to the child.

Push notifications will be incorporated into the RocStar prototype. These notifications will alert a member of the Roc Solid staff when a new referral form arrives, and will alert volunteers when a new project is created so they have the opportunity to sign-up for it.
2.2 Prototype Functional Description

Upon initial entry into the RocStar application, all users will be given brief information about the Roc Solid Foundation, and what the RocStar application provides the user. The user will be taken to the RocStar homepage which will contain three links: online store, login/create account, and donate. When the user logs into the RocStar application they will have the ability to access the parts of the application to which their user permissions allow. All users will have some access regardless of user role. The common access links will be the online store, an RSF donation page, access to their own user profile, and a message inbox. Figure 2 illustrates the common points of access for all RocStar users.

Figure 2. Common access site map.
Hospital staff users will have the ability to create referral forms. These referral forms alert Roc Solid that their facility has a new pediatric cancer patient. The referral form can have many of its fields prepopulated with information if the hospital staff user has completed their user profile. The hospital staff user will be able to both create and view existing electronic referral forms. The referral forms will be submitted through RocStar to the Roc Solid Foundation’s staff for approval. During the processing of the referral form, the status of the referral can be seen by the hospital staff user. Hospital staff users will also have access to a current inventory of ready bags that Roc Solid is showing on-hand for their facility. If the inventory is low they will have the ability to create and submit an order form for new ready bags. Figure 3 illustrates the additional points of access given to hospital staff users.

Figure 3. Hospital staff user site map.
Roc Solid Foundation team leaders will have access to information on the projects to which they are currently assigned. Team leaders will also be able to receive and approve completed volunteer waivers for all of the workers on their projects. Access to the volunteer manual will be attainable by team leaders, as well as the ability to edit the information to ensure that it is kept current. Fundraising tools to assist with a project’s financial success will be incorporated into the team leader’s access levels.

Volunteers will have access to links that team leaders have just with different permissions. Volunteers will be able to access the projects link, but will only have view permissions so they can plan for current and upcoming project attendance. Volunteers will also be able to view a project map to determine if an available project is in their area. A volunteer user can create and edit a volunteer waiver which must be filled out and approved by the team leader before a volunteer may assist on a project. Volunteers also have access to the volunteer manual and fundraising tools. Figure 4 illustrates the access levels for volunteers and team leaders.
Roc Solid staff users will have uninhibited access to all levels of the RocStar application as they will be the system administrators. Staff users will be able to create, edit, and assign projects. Staff users have visibility on the hospitals they service through the hospitals link. This link will show them who their points of contact are for hospitals in their system, current referral forms and their status, requests for ready bag replenishment, and provide them current contact information. Roc Solid staff will have visibility on all volunteers and families that are enrolled in their system. The documents link will allow Roc Solid staff members to access a repository of all current and historical documentation such as volunteer waivers and hospital forms. Figure 5 illustrates the access level of a Roc Solid staff user.
Push notifications will be sent by Roc Solid Foundation staff to inform team leaders, volunteers, and families of upcoming events and information. Roc Solid foundation staff will also receive push notifications when a new hospital referral form or ready bag request form is awaiting their approval.