Lab 1 - RocFamily Product Description

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1 Introduction

Families have their lives forever changed upon the diagnoses of pediatric cancer. The pediatric cancer patient and their family can experience feelings of isolation, frustration, stress, and boredom. They may be lacking support, or struggling financially, while dealing with the constraints of their child being constantly hospitalized, typically in an unfamiliar geographic area. In order to assist these patients and their families, Roc Solid Foundation was formed.

Roc Solid Foundation is a non-profit organization who, by their own definition, "builds hope for children battling cancer and their families by offering opportunities for them to do what they do best – play (RSF, 2018)." Roc Solid Foundation has two programs that provide support and build hope for pediatric cancer patients and their families. Play It Forward provides pediatric cancer patients, between the ages of one and eight, with a custom playset in their backyard and provides pediatric cancer patients, between the ages of 8 and 18, with a complete room makeover. Ready Bags provide families of pediatric cancer patients with essentials needed for their unexpected hospital stay. This includes, but is not limited to; toiletries, a blanket, a prepaid debit card, a journal, and a tablet. The Ready Bag does not provide direct support. The Ready Bag also does not provide families with discounts and deals to simplify their lives and ease the strain of financial burden or give access to local events, games, and movies (Figure 1).
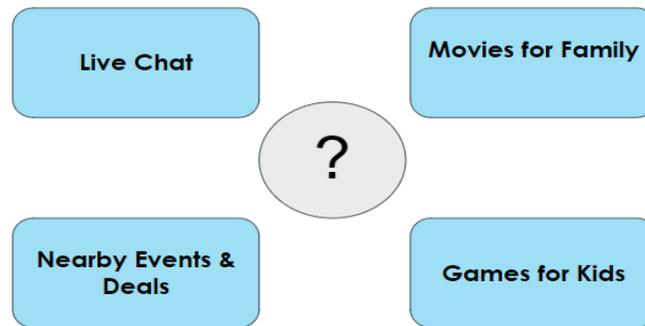
Figure 1. Current Process Flow

The Roc Solid Foundation needs a web application that allows pediatric cancer patients and their families access to multiple areas of support. In addition, Roc Solid Foundation needs the web application to provide pediatric cancer patients and their families with access to events, deals, games, and movies in order to provide pediatric cancer patients, and their families, with a means to alleviate stress and distract themselves during their hospital stay. The solution must provide 24-hour access to support for families in need. The solution must allow Roc Solid Foundation to maintain an updated database of events, deals, games, and movies. Old Dominion University's CS 411W - Professional Workforce Development II's Crimson Team proposes a web application solution called "RocFamily".

2 Product Description

RocFamily is a website that will be developed by Crimson Team to provide pediatric cancer patients and their families with a means to communicate, via live chat, with Roc Solid Foundation's staff and volunteers. In addition, the RocFamily website will allow Roc Solid Foundation the ability to provide information on events, deals, games, and movies. The RocFamily website will be compatible with various web browsers including Chrome, Firefox, Internet Explorer, and Safari.

2.1 Key Product Features and Capabilities

There are two major types of user accounts in the RocFamily website; the user account, for pediatric cancer patients and their families, and the Roc Solid Foundation admin account. The account for pediatric cancer patients and their families will allow the user to launch a live chat with a Roc Solid Foundation staff member. This user will also be able to access updated events, deals, and coupons from the local area. In addition, this user will be able to access age appropriate games and movies, provided via links. Roc Solid Foundation will need administrative access to communicate with these families, to update events and deals, and to provide links to games and movies.

All users, within the RocFamily website, will only be able to view information necessary to their role. All RocFamily events, deals, games, and movies will be relevant and updated in real-time. The RocFamily website will be easy to navigate and provide a user-friendly experience. The process workflow, provided by the RocFamily website, allows user access to live support and prevents the need to search for activities and discounts in an area they may be unfamiliar with (Figure 2).
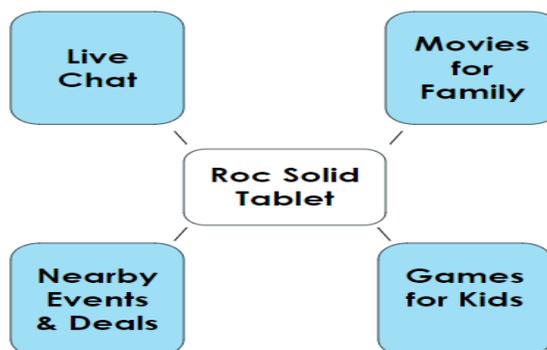

Figure 2. Proposed Process Flow

2.2 Major Functional Components (Hardware/Software)

The RocFamily website will be developed using HTML, CSS, and JavaScript. Users will be able to access the web application via their tablet or mobile device, which will increase the accessibility of the RocFamily website and reduce the risk associated with low adoption. The RocFamily website be synced with the RocFamily server for storage of user data, events, deals, and links to games and movies (Figure 3).
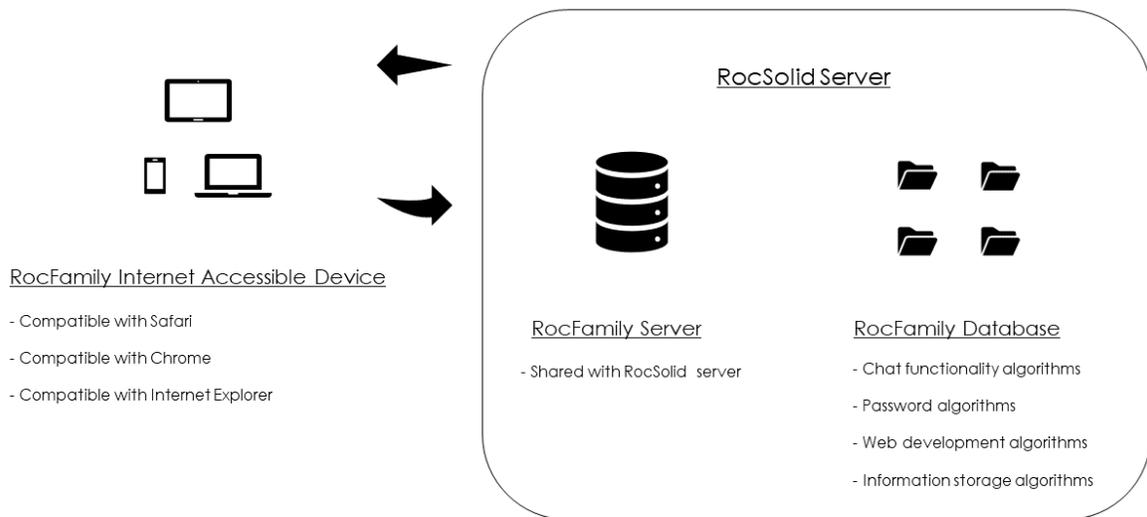

Figure 3. Major Functional Component Diagram (MFCD)

3 Identification of Case Study

The RocFamily website is being developed for Roc Solid Foundation to provide them with customized tools to aid in their communication with pediatric cancer patients and their families. In addition, the RocFamily website will enable Roc Solid Foundation to provide

families with access to events, deals, games, and movies. Roc Solid Foundation does not currently have the means to provide these services to their client.

There are other websites and mobile applications which handle various aspects of the proposed process flow; however, none encompass all the details in which Roc Solid Foundation hopes to provide. CancerCare, Pocket Cancer Care Guide, Simply Sayin', Proton U, and Mobile MyMSK provides users with the ability to look for support. In addition, Proton U provides games for kids. There is no current application for pediatric cancer patients and their families that provides them with centralized mental and physical support (Figure 4).

Features	RocFamily vs. Competitors					
	RocFamily	CancerCare	Pocket Cancer Care Guide	Simply Sayin'	Proton U	Mobile MyMSK
Find Games for Kids	✓	✗	✗	✗	✓	✗
Find Age Appropriate Movies	✓	✗	✗	✗	✗	✗
Look for Support	✓	✓	✓	✓	✓	✓
Find Local Events	✓	✗	✗	✗	✗	✗
Find Coupons and Deals	✓	✗	✗	✗	✗	✗

Figure 4. Competition Matrix

The RocFamily website will be available to patient and their families. In addition, Roc Solid Foundation will have access to the RocFamily website for uploading events and deals, as well as updating links to games and movies.

4 RocFamily Product Prototype Description

The RocFamily product prototype has multiple differences from the RocFamily website. The differences exist to allow Crimson Team and Roc Solid Foundation the ability to develop,

test, modify, and improve the features of the RocFamily website. The main difference is the "Tester" user account, which will allow Crimson Team and Roc Solid Foundation the ability to act as the pediatric cancer patient or family member using the tablet.

The accounts that will be duplicated between the RocFamily product prototype and the RocFamily website will be: the Roc Solid Foundation staff/volunteer access which will have the capability of uploading events and deals and have the ability to update links to games and movies, the patient access which will allow the user to link to games and movies, and the family access which allow the user to link to game and movies but also provide the user with access to chat, events, and deals. Risks involved with the development and use of the RocFamily website include customer risks: ease of use and low adoption rate, and technical risks: broken links, data security, and automation.

4.1 Prototype Architecture

The hardware for the RocFamily product prototype will be hosted on a virtual machine, provided by Old Dominion University. It will incorporate a SQL database server and a web server. The SQL database server will allow storage of user account information, event details, discount information, and a complete list of active links to games and movies. The web server will provide front end access to user accounts, allowing pediatric cancer patients and their families access to event details, discount information, and a complete list of active links to games and movies. These will allow integration with Roc Solid Foundation's NeonCRM. Software tools for the RocFamily product prototype will consist of an integrated application for chat functionality, the physical website which is to be updated by Roc Solid Foundation, and an authentication system for validating user's before they can access chat functions.
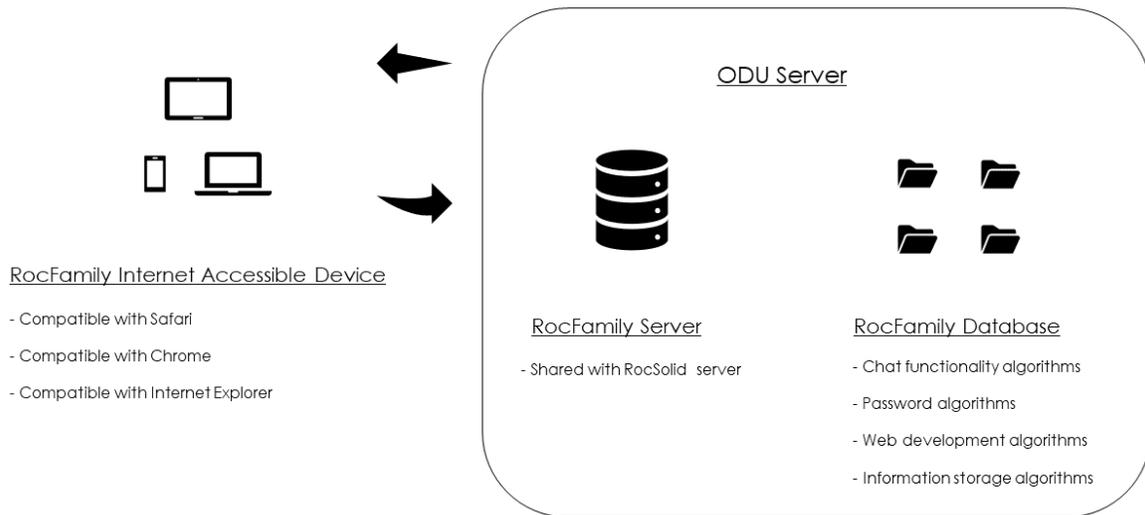
ODU Server

RocFamily Internet Accessible Device

- Compatible with Safari

- Compatible with Chrome

- Compatible with Internet Explorer

RocFamily Server

- Shared with RocSolid server

RocFamily Database

- Chat functionality algorithms

- Password algorithms

- Web development algorithms

- Information storage algorithms

Figure 5. Major Functional Component Diagram (MFCD) Prototype

4.2 Prototype Features and Capabilities

The RocFamily product prototype chat feature will include the capability to store chat logs and to accept input from users: Roc Solid Foundation staff/volunteers and the pediatric cancer patient and their family, and will provide notifications on incoming chat messages. The RocFamily product prototype will allow Roc Solid Foundation staff/volunteers the ability to create, delete, and update existing events, deals, and links to games and movies. The RocFamily product prototype will provide the end user touch driven interaction with access to chat, events, deals, games, and movies. The RocFamily product prototype will provide secure access via an authentication system.

The RocFamily product prototype will be capable of integration with the Roc Solid Foundation's current database structure. The RocFamily product prototype will present the end

user with an event calendar. The RocFamily product prototype will allow real-time access to updated deals, game, and movies.

4.3 Prototype Development Challenges

The RocFamily product prototype and Crimson team face challenges with integration into the Roc Solid Foundation's infrastructure. The RocFamily product prototype also faces the technical risks associated with web application security. In addition, the RocFamily product prototype faces developmental challenges with development, testing, and deployment.

Glossary

Roc Solid Foundation: Builds hope for children battling cancer and their families by offering opportunities for them to do what they do best – play

Play It Forward: Builds custom playsets in the backyards of children ages 1 – 8 fighting cancer and completes room makeovers for children ages 8 – 18

Ready Bag: Includes everything a family might need for their unexpected hospital stay – toiletries, a blanket, a prepaid debit card, a journal, a tablet, and more

RocFamily: An application that is preloaded onto the tablet provided in the Roc Solid Ready Bag, which offers comfort support for parents and entertainment for children, during this stressful time in their life

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