Lab 2 – Roc Family Prototype Description

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Lab 2 – Roc Family Prototype Specification

1. Introduction

"Every day, 43 children are diagnosed with cancer," (Childhood Cancer Statistics). This fact means that 15,700 children and families lives will drastically change for the worse every year. Through this is a confusing and terrifying time, non-profit organization Roc Solid Foundation aims at being there every step of the way. Roc Solid Foundation was founded nearly 30 years ago by Eric Newman (Roc Solid Foundation). The foundation currently has three main areas of focus; room makeovers, backyard playgrounds, and hospital bags called Ready Bags". Ready Bags are passed out to children and their families once a child has been diagnosed with cancer.

Inside the bag has everything from prepaid debit cards to tablets.

For the past two years Old Dominion University computer science department has had the privilege of working with the Roc Solid Foundation. The most recent phase, Roc Family, is working on an entertainment website for Roc Solid patients aimed at improving the lives of patients and families while undergoing treatment.

1.1 Purpose

The main customers for this website are pediatric patients and their immediate family. Roc Solid is concerned that families are too isolated from the foundation since their only method of communication are through email or phone. Another major concern Roc Solid has is that families do not have enough forms of entertainment while they are in the hospital receiving treatment.

Roc Solid plans on combating these problems by developing the Roc Family website. The website will have a chat feature that will allow for the patients to communicate with Roc Solid staff. This will allow families to have support instantly whenever they need it. The website will also include a game, movie, coupon, local deals and events section. These sections will give the much-needed distraction and relief to patients and their families.

1.2 Scope

Once the family is registered with Roc Solid and receives their Ready Bag, they will be able to take use the tablet provided to them and click on the Roc Family icon. They will then sign onto the Roc Family website with the username and temporary password included with the tablet.

From there, parents or guardians will be able to communicate instantly with a Roc Solid staff or volunteer via the chat feature. This will enable the family member to gain instant access to help or support. The chat feature will use real time data to communicate to Roc Solid staff. This will help improve communication, coordination between families and Roc Solid, and provide constant support to the families.

The website will also have three main features that focus on entertainment. There will be a games page and a movies page. These two pages will provide links to third-party websites. These will all be selected by the Roc Solid staff and ensure that they are family friendly and age appropriate. The last feature is the events and deals page which will have different local events and deals. These will all be pre-approved events by the Roc Solid Foundation.

Roc Family will develop a prototype almost identical to the real world solution. Key differences will be the database and content that is displayed. Roc Family will be using a test database to simulate the real-world alternative. Roc Family will also be using test content for

the events, games, and movies page opposed to having the Roc Solid approved content.

Another key difference will be where the website is being hosted, Roc Family will host the

website on Old Dominion University computer science servers.

1.3 Definitions, Acronyms, and Abbreviations

JavaScript: Programming language used to create interactive elements on websites.

AngularJS: Structural framework for dynamic websites

Express: Framework used to manage Node.js

Node.js: Uses JavaScript to create server-side applications.

MongoDB: Database that stores data in files.

MEAN stack: MongoDB, Express, AngularJS, Node,js.

HTTP: Hypertext Transfer Protocol foundation of the internet

CSS: Cascading Style Sheets used to style webpages

Front-end Programming: The part of the website that the web user interacts with.

Back-End Programming: The part of the website that stores the data.

1.4 References

Childhood Cancer Statistics | CureSearch. (n.d.). Retrieved February 04, 2018, from

   https://curesearch.org/Childhood-Cancer-Statistics

Holm, Megan. (2017, February). Lab 1- Roc Solid Product Description

Roc Solid Foundation (n.d.). Building hope for kids with cancer. Retrieved February 05,

   2018, from Roc Solid Foundation Web site http://rocsolidfoundation.org/

1.5 Overview

This is an overview of the Roc Family prototype. This document highlights the products architecture, functions, and external interfaces. The architecture section outlines the products major components and summarizes their purposes. The function section outlines what the product performs. The external interfaces outline the hardware, software, and user interfaces.

2. General Description

The prototype will be like the real-world application. Major differences would be the lack of actual users and administrators on the prototype. This will need to be simulated by test users and administrators. This will help ensure that the website will function when it goes live. The prototype server will also differ by the real-world application. The server for the prototype will be hosted by Old Dominion Apache server.

Other features that will be missing from the prototype is website content. This will also need to be simulated. There will be games, movies, events, and coupons that will be put in place, so the website algorithms can be tested. There will be tests to make sure that the broken link and expired events algorithms are working properly.

2.1 Prototype Architecture Description

The Roc Family prototype can be split up into four different major components. The first component is the physical device and its web browser that will be used to access the website. The Roc Family prototype will be guaranteed to work on the latest version of Chrome, Firefox, Edge, Internet Explorer, Safar, iOS, and Android. Roc Family cannot guarantee other web

browsers or older versions of the web browsers listed since Roc Family is limited on what

AngularJS supports.

The second major functional component is the Roc Family server. This will host all of the

code for the website. The prototype will be utilizing the MEAN stack. The front end will be

written in HTML, CSS, and JavaScript. This front end will then communicate to the back-end

utilizing Express node.js web framework.

The Third component is the database. This will be written in MongoDB. This will

communicate with the frontend by utilizing the Express framework. The Roc Family server and

database will both be hosed on Old Dominion University computer science servers.

2.1 Prototype Functional Description

The prototype functions can be split into three parts. The first part is the patient portion of

the prototype. The patient side will be able to view the games, coupons, movies, and deals

portion of the website. Additionally, they will be able to access their account information and be

able to update their personal information if needed. Most importantly the prototype will have a

chat box at the corner of their screen to communicate with the Roc Solid Foundation staff in real

time.

The second function is the administrator portion. The Roc Solid staff will have the ability

to add, edit, and delete content from the movies, games, and coupons and deals section. They

will also be able to add, edit, and delete user information. Roc Solid staff will also have access to

all chat history from the patients.

This third prototype function is the algorithm section. Algorithms will also be developed

to make it easier for Roc Family users and for Roc Solid staff to manage the website. There will

be a broken link algorithm which will run automatically and notify the system administrator

when a link is broken. There will also be an expired event algorithm. This will check the events

page and notify the system administrator when events are expired so they can be removed from

the website. Both the Roc Family user and staff will be notified if there is a new message in their

inbox, even if they are not currently logged in. There will also be a forgot password algorithm

that will allow the families to change their password from the login screen.
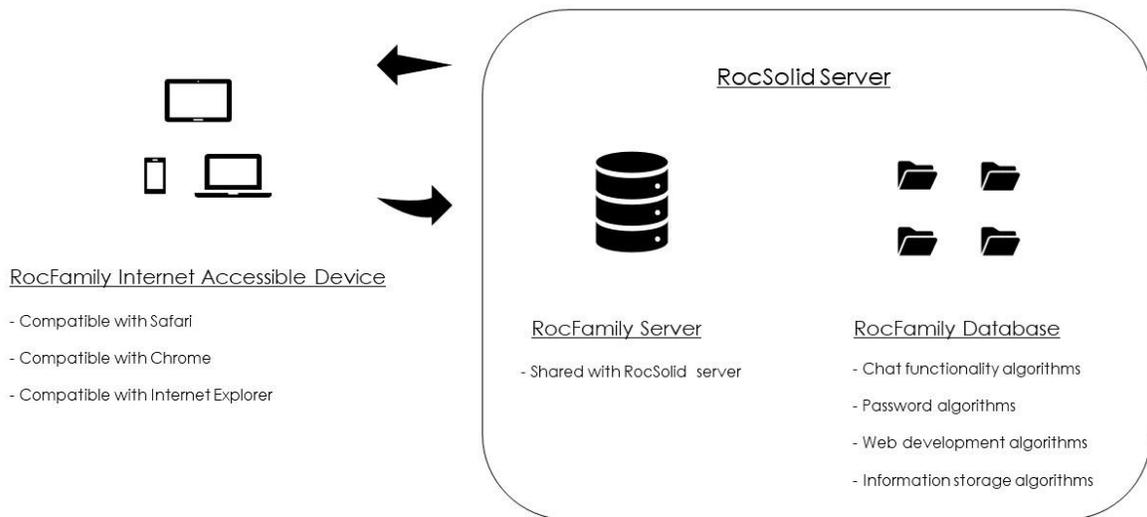

Figure 1 Major Functional Component Prototype Diagram

2.2 External Interface

2.2.1   Hardware Interfaces

The prototype will use an internet capable device. Although Roc Family will not actually

be interacting with the physical server, this also is a requirement to run the prototype.

2.2.2 Software Interfaces

The prototype will use MongoDB, Express, AngularJS, Node,js.This will be written in any text editor. For version control the prototype will use GitLab.