Lab 1 – Roc Family Product Description

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Version 2

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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 (Building Hope). 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.

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.

2 Product Description

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.

2.1 Key Product Features and Capabilities

Each family will have their own personalized login and password. This will allow for the

chat to remain private and secure. Families will be able to get information immediately from the

Roc Solid Foundation. They will be able to find support or get answers to specific questions. The

chat will be able to provide real-time conversation and will be able to be archived. This will

allow for the conversation to still carry on even when the user has logged off for that session.

Each family will have access to free movies and games. The website will link the family

to third-party websites such as Netflix or PBS kids. The web application links to third-party

websites and apps, so it will be necessary for the user to maintain internet connection at all times

for these services.

Additional key features are the events page and coupons page. The page will have up-to-

date events that are pre-approved by a Roc Solid volunteer. The events will link families to third-

party websites that provide additional information. These events and coupons will be checked by

a system administrator to ensure they are up-to-date.

System administrators will be able to communicate through their own administration

logins to each of the families. They will be able to add, edit, and delete any event. They will be

able to update and add to the movie and game section of the website. System administrators will

be able to create and delete user credentials. They will also be able to automatically ensure that

all links are properly working.

2.2 Major Functional Components (Hardware/Software)

The users will access the website via the Roc Family provided tablet, a mobile device, or

a computer. The website will run in all web browsers and will require a constant connection to

the internet to use the services.

These devices will then communicate with the Roc Solid servers to gain access to the

Roc Family database. The database will have all the information for both the front-end and the

back-end. The front-end will have HTML and CSS code and will control how the website looks.

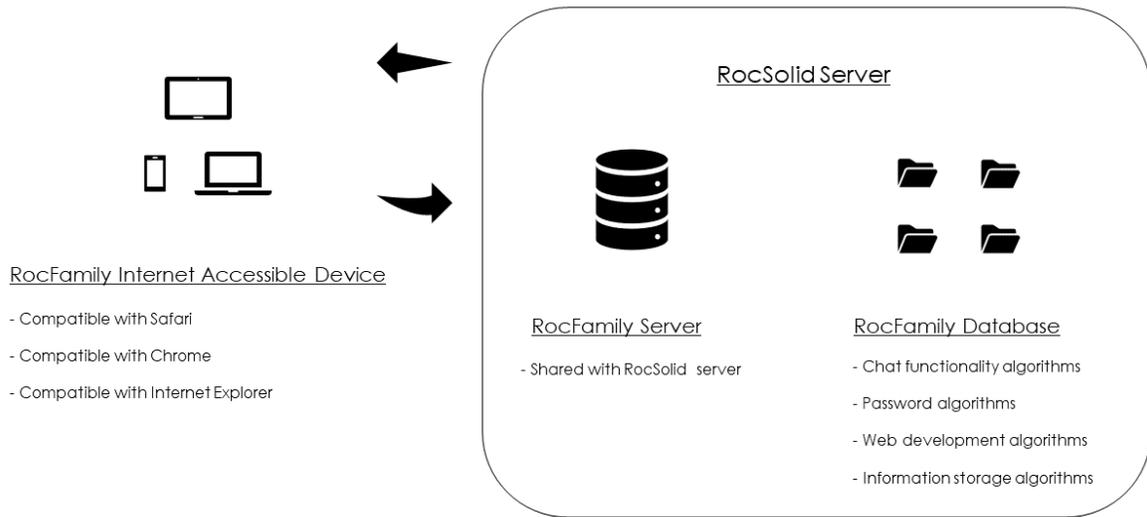The back-end will handle all the database, MySQL.

Figure 1 Major Functional Component Diagram

The software that will be required to develop the code will be HTML, CSS, PHP, JavaScript and use AngularJS framework. Development will be done on a text editor such as Windows Visual Studios. Version control will be controlled by GIT.

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.

3 Identification of Case Study

The Roc Family website is being designed specifically for the needs of patients that are involved with the Roc Solid Foundation. Currently the Roc Solid Foundation lacks a digital form of communication and entertainment.

The central problem that Roc Solid Foundation is focusing on is an easy way for Roc Solid Foundation patients to communicate with the Roc Solid Foundation staff. This has been emphasized as the top prioritized feature for the Roc Solid Foundation. The current method families use to communicate with Roc Solid is through email or phone. Roc solid wants to establish a more effective way of communicating.

Other issues that Roc Solid is working on is forms of electronic entertainment. Roc Solid patients have to rely on what is at the hospital for movies and games. Roc Solid wants a way to help alleviate the stress and boredom that is caused by lengthy hospital stays and treatments.

4 Product Prototype Description

The prototype will be similar to 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.

4.1 Prototype Architecture

The prototype architecture will be completed on Old Dominion servers. Old dominion Apache web server will be accessed via virtual machine. This will allow access to simulate both the web server and the database server. On the server, Roc Family will use MySQL for storing test data. This will include a test database for patient personal information and staff information. This will be accessed by imbedding PHP script into the HTML. This all will be simulated on the ODU servers.
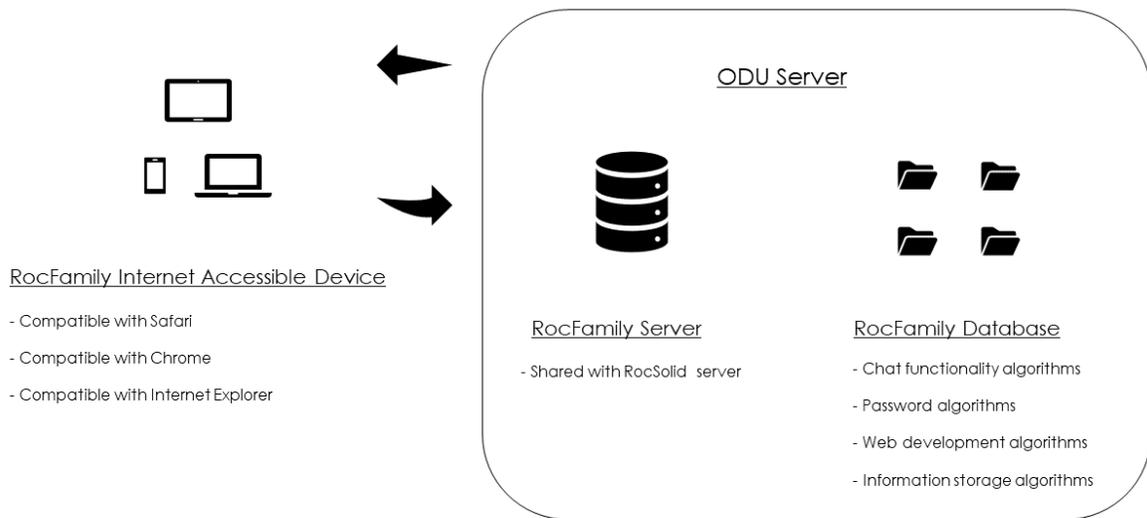

Figure 2 Major Functional Component Prototype Diagram

4.2 Prototype Features and Capabilities

The Roc Family prototype will have most of the features and functionality described. The only major difference between the real-world application and the prototype will be the users. Roc Family will have to use test users and administrators to ensure that the prototype functions properly. Another difference will be the content on the website. The events, games, and movies will have to be either simulated or filled with public content until the Roc Solid Foundation has worked out licenses with streaming movies and games.

4.3 Prototype Development Challenges

The largest challenges that Roc Family will face is testing, development of the chat function, and integration with the servers. Testing will need to be robust to ensure that once the product is live it will function properly since if the web application does not work properly the first time, families may not ever use it again. Another development challenge will be the chat function. Roc Family will need to develop a way to make this simplistic and easy to use since it is the most wanted feature by Roc Family. The last development challenge will be the server integration.

Glossary

HTTP: Hypertext Transfer Protocol foundation of the internet

CSS: Cascading Style Sheets used to style webpages

Bootstrap: Open source framework used for website design

Git: Used for version control for software development

PHP: server-side scripted language

References

Building Hope. (n.d.). Retrieved February 04, 2018, from http://rocsolidfoundation.org/

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