Lab 1 – Roc Family Product Description

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## 1. Introduction

Everyday around forty-three children will be diagnosed with cancer (Childhood Cancer Statistics). That is around 15,700 children and families who's lives will drastically change yearly. Through this 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. The foundation currently has three main areas of focus. Their larger projects are room makeovers and backyard playgrounds. They also provide a bag full of hospital essentials when the child is first diagnosed called the, "ready bag," this includes everything from prepaid debit cards to tablets.

Old Dominion University computer science department has had the privilege to work with the Roc Solid Foundation for two years in a row. The most recent phase, Roc Family, is working on an entertainment website for Roc Solid patients. The goal is to have a web site that has different features: a chat that would connect family members to staff or volunteers at Roc Solid, games, movies, and nearby events. This would be preloaded onto the tablet that is included in the ready bag that Roc Solid provides.

## 2. Product Description

The product will give the patient and family a better quality of life while in the hospital and undergoing treatment. Each family will register with the Roc Family website when they register for the ready bag. Once they are given the ready bag, inside will be a tablet. On that, they will be given access to the Roc Family website by clicking on the Roc Family Icon that will already be installed on the device.

Once the family member logs onto the page, they have different types of services. For parents or guardians, they will be able to communicate instantly with a Roc Solid staff or volunteer. This will enable the family member to gain instant access to help or support. Another feature is the events page which will have different events for local organizations. These will all be pre-approved events by the Roc Solid Foundation.

Aside from the events and chat features, which will be mostly aimed for the parents and guardians, the children will have access to games and movies. The movies area will link the user to various different streaming sites as well as the games area. The parents or guardians will also have a section for games and movies.

**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 stored and 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 streaming movies and games. Currently the plan is to have links to different websites such as Netflix or PBS kids. This may change once licenses are negotiated with the Roc Solid Foundation. Since the web application links to 3rd part websites and apps, it is necessary for the user to maintain internet connection at all times to use these services.

Another key feature is the events page and coupons page. The page will have up-to-date events that are pre-approved by a Roc Solid volunteer as well as the coupons page. The events will link the families to 3rd part 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 admin 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 logins. They will also be able to automatically ensure that all links are properly working.

**2.2 Major Functional Components (Hardware/Software)**

The hardware required to run Roc Family will be a server and the users' personal device. This server will be split up into multiple sections. One section will be the web server. This portion will deal with the HTTP portion of the website. This includes any pictures, front-end code, and HTTP requests. The other server will be the database server. This server will handle all back-end development and it will deal with the database, MySQL. The users' personal device will be provided by Roc Solid in the ready bag but the families will also be able to access the website with other personal devices as well.

The software that will be required to develop the code will be HTML, CSS, and a framework such as Bootstrap. Development will be done on a text editor such as windows visual studios. Version control will be controlled by GIT. PHP will be used to code the server-side script.

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.

**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.
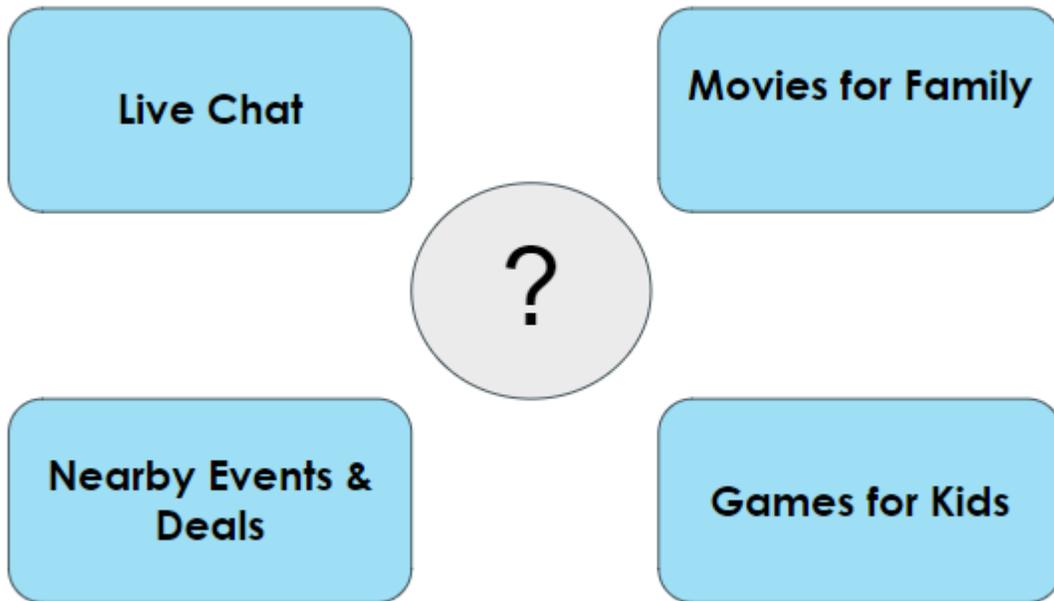


Figure 1: Current Process Flow

Figure 1 shows the current process flow. The middle is a representation of the current user. Each box represents the services that the Roc Solid Foundation wants available for their patients but does not currently provide.

The largest problem that Roc Solid Foundation is currently experiencing 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 way families have to get a hold of Roc Solid is through email or phone which is not as efficient as the Roc Solid Foundation wants.

Another issue is the lack of electronic resources for the patients. Roc Solid Foundation provides support through their physical projects, such as the room makeover or backyard playground, but they currently lack a digital venue. Patients currently have to use their own services or use hospital televisions whose quality varies by hospital. This is exemplified by both the movie and game portion of the diagram.

The fourth issue is families finding nearby deals and events. Roc Solid foundation does not currently have a way to provide information about the local area and is unable to distribute coupons for their families.

**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 before it ends up on Roc Solid 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.

### 4.2 Prototype Features and Capabilities

The Roc Family prototype will have most of the features and functionality described throughout this essay. 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.

## 5. 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

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