Mercer Street Friends
Software Proposal & Specifications
TCNJ'18

MERCER STREET
FRIENDS

Submitted by: SpecialOps - Team 2
Submitted to : Professor Michels &
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Proposal

Project Name: Mercer Street Friends Special Ops (Group 2)

Problem to be solved:

Dave Zboray is the director of operations for Mercer Street Friends. Dave manages 5 buildings all alone and receives all his work orders through phone. He used to use a website called Hesk but it was not intuitive enough for the person putting in the order and him checking it. To see on either end what the status is or responce, you have to log back into the website; which does not notify you whenever its complete or ordered. With this said, the only people who were using it was him and one other person so he went back to his phone. He needs a new form of communication with email notifications and a FAQs page for common questions. He needs a "to-do"list with an order of urgency because writing them down or using pen and paper doesn't work for him nor should it with a online world. By providing a website that Dave can upload pictures and video links, he can include step by step tutorials or a link to someone who can better explain the question asked.

Objective:

Is for our group to create a solution to Dave Zboray's current day-to-day solutions. On a daily basis Dave will get calls to fix issues in the five buildings. He has nowhere to input the tasks that he must take care of or the questions that he must answer. A database will allow Dave to get tasks and questions in one location. Also, this will be a user friendly website so it will be a convenient for Dave to use. This is unlike Hesk because it did not fix a solution it made it more complex. We will also add a FAQs page to include common questions. Then there will be a "to-do" list with an order of urgency. This will allow him to work more efficiently.

Value of the Project:

The value of the project will allow Dave to work more efficiently. He spends a lot of time answering phone calls, and responding to the same questions. While, if he can login to this database two times a day he will be able to spend more time doing other things. His process will run more efficiently, and he will be able to get more work done. There will also be less chance of mistake because if he receives phone calls with tasks, he writes them down on paper or mental note which can be easily misplaced.

Identification of the Stakeholders:

The Stakeholder in this situation is Dave Zboray because we are creating the website for him. Therefore, we have already contacted him twice, yet we will be continuously contacting him to make sure he approves of the product. If Dave does not approve it will not be used.

Therefore, we will have continuous contact because it will ensure the use and approval of the product.

Other similar approaches and how our system is innovative:
A system similar to ours is Hesk. Dave has mentioned that he was using it but has recently stopped using this software and is now back on receiving phone calls and emails. Hesk is a software that runs on MySQL database. It helps develop a web based ticket support system.It is a basic software which helps manage customer issues.

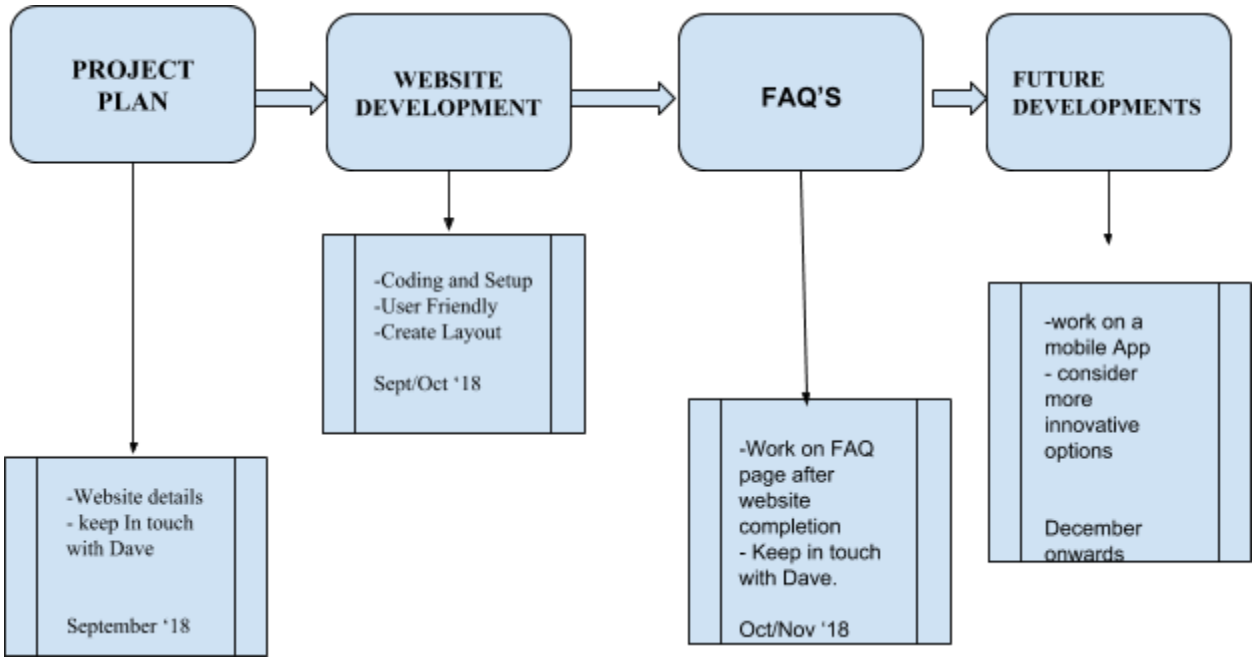
The software that Special Ops is creating has many innovative operations which will allow the user to manage time efficiently. Below are some innovations we plan on designing:

- Dave can prioritise and schedule tasks.
- Urgency tab option for tasks that need to be taken care of right away.
- An option which will allow user to set up alerts and notifications.
- If the software is a success,we can even create an App that can be downloaded over the phone.
- Our software can even include (if Dave agrees) a customised map of MSF district buildings. This way it will be easier to analyze the location and get things done on time.
- A checklist /calendar that can help organize the daily schedules.
- FAQ page

Technologies and concepts the team will learn:

- Creating a website and make it easy for it to be edited by Dave. To do this we need to sit down with Dave and see what he wants the website to look like, and explain to him how to use the site.
- The web application will be developed with the framework Ruby on Rails.
- Ruby Mine will be used as the IDE and GitHub will be a tool for source control and project management.
- A database will be needed in order to store information about the issues submitted for Dave.

Diagram -
System Development Timeline



Stage III - Elaboration:
Requirements Modeling and Analysis

- **REQUIREMENTS & SCOPE OF PROJECT**

  Scope of Project:

  - Documentation of Stage III
  - Review Stage II
  - Project goals thoroughly discussed.
  - Tasks assigned to each team member.
  - Worked on timeline.
  - Regular meetings and group work.
  - Making sure each team member understands every step of the project.

  Goal of the Project:

  - Goal of the project is to provide Dave with a simpler and more effective system for taking in tickets. Right now Dave is just taking issues that he needs to complete through the phone and email. If we provide him with a system he will be able to complete more jobs at a faster rate. This is where Dave is currently running at a suboptimal functional state. This means that his process is working but not at the most effective rate that it can be. Therefore, his process is working but, it can be more effective. This is what our product is providing for Dave. It will also provide better communication between Dave and the other workers at Mercer Street Friends because to log an operational issue people just need to insert it into the website that we are creating. The even better part about our product is that we are providing a FAQ'S page for Dave so when people ask the same questions that are on the FAQ'S page Dave can just refer them to the page. This will save Dave a lot time and he will be able to complete more tasks in a smaller amount of time.

  Features:

  - This system will be a user friendly software,one that Dave can easily use and also teach his team.It has many innovative features which are discussed in this section of the paper,these user friendly features will allow Dave to complete his work more efficiently.

Requirements:

- Innovate a part of Mercer Street friends, we decided to help Dave in charge of MSF operations.
- To create a "one stop shop" to help Dave organize, plan and delegate to helping those of the community.
- Security functionality protecting the users of the websites personal information, (name, phone number, address)
- Email system that delivers everything to Dave, notifications, updates, comments and questions.
- Coding of the website, creating something free and editable to Dave's needs.
    - This includes meeting with him personally and showing him prototypes.

- **FEATURES OF THE SYSTEM**
    - The functionality of the system is to make Dave's jobs and Mercer Street Friends(MSF) extremely easy and user friends to get help. By featuring a FAQs page that features video links and images, it will eliminate most of the questions that Dave has to repeatedly answer. When someone asks for a request, the request is uploaded to the website and an email is sent to Dave with the details. Dave then can mark the urgency for which the requests will be filled out and the website will organize them from most to least important. A timeline will also be provided for the order of request received dated within the category of urgency moving the oldest date to the top The system will also be open to other members of MSF to upload requests if they get any in person or on the phone.

- **LIVELY ENGAGING DESCRIPTION AND THE VALUE IT WILL ADD**

The software that team Special Ops has proposed to create is a problem solving and task scheduling software. There are many systems that exist out there but the one we are creating has a characteristic of its own and hence is unique and one of a kind. We have had meetings with Mr Dave and have been on our level best to customize the software as per his needs. This will allow the system to run more effectively. Once potential users discuss a few tasks and issues that they would like solve and operate through a software, it becomes easy for us to create and code for them.

Our system will include quite a few operations that will efficiently be very helpful for Mr.Dave. As of now, listed below are a few major tasks we are working on and as time passes there might be a possibility to add on more innovative solutions to our software.

- Our system will have a database that will allow the user to store contacts and all issues he receives daily.
- Task scheduling option, user will be able to assign task and schedule as needed.

- "To do list", this will allow the user to function and structure his work in an organized manner.
- FAQ page, this function will help the user guide his customers on how to solve problems or any basic questions that they might have.

We have regular team meetings and also we contact Mr. Dave every few weeks to discuss the status of our software and also if he wants some more additions to the system. That being said,there are possibilities that we might add or remove some of the options.

The above mentioned parts of the system is what definitely makes our software unique and this uniqueness will add value for Mercer Street Friends and Mr.Dave who will be using it daily.Listed below are some values that our system will give to them:

- Efficiency
- Technology in the workforce
- Structured problem solving technique
- Organized
- Multi-tasking
- Helpful for not only the operator but also other users as well.

These are some values that Mr. Dave will achieve once he starts using this system.

- **SOCIAL ,ECONOMIC AND REAL WORLD ISSUES OF THE PROJECT THAT DELIVER VALUE AND HOW WE WILL DO THIS:**

  - Some issues that need to be addressed for our project to add value includes the lack of easy communication between Dave and other workers at Mercer Street Friends. If Dave is not knowledgeable about all the problems in the five buildings they will not be operating as smoothly as they should be. Also, there will be issues with the five buildings and the support that they are supposed to provide to the public. For example, if the Pre-School needs lights changed, and Dave does not know until the school day starts students might be working in an environment that is hard to learn in. These issues will not only cause problems for Dave and other workers at Mercer Street Friends but, it will also impact external users which in some cases will include children. Also, if there is a problem in the food bank and Dave learns too late the food could end up spoiling. This is important because the food bank provides food for those who cannot afford it, and they count on the food bank for some or all of their meals.

- **DESCRIPTION & STATUS OF FEEDBACK RECEIVED**
    - The feedback we received was to look over the priority of the work orders requested and the task chart to have a timeline which we both included.
    - We have revised our diagram which was suggested to have a timeline instead.
    - For the priority work orders we are working on it and further plan on discussing this issue on how to make it more user friendly and time sensitive.

- **LEGAL ISSUES:**
    - Privacy of personal stored information
    - Only administrator will have access and authority of certain requests.
    - Making sure our software is not violating any rules and regulations of the area.

- **DETAILED STEP BY STEP USE CASE DESCRIPTION FOR ALL CASES YOU WILL IMPLEMENT**

  Log In: Each user of this web app will be asked to log in if they already have login credentials.
    - **Check User Permissions:** The credentials of the user will be checked to see whether they are an employee or an administrator. In this case Dave will be the administrator.
    - **Verify password:** The username and password will be checked to see if they exist in the system.
    - **Display login error:** If the user entered their username/password in wrong an error will be displayed.

Create Account: If the user does not have an account they will click on a "Create Account" button which will navigate them to a page which will have them sign up.

Add New Request: If Dave or the employee need to add an issue request they will click on a "Add New Request" button. This button will then open a pop up window which will contain a form that needs to be filled out. This form will contain the fields, "Issue Name", "Issue Summary", "Department", "Issuer", "Date", and "Status". Once a request is added it is displayed on a table which contains all the requests. There will be two tables: one for the employee and one for the administrator. The employees table will contain the requests that they individually submitted. The employee will be able to see all the fields they filled out as well as the status of their request. The other table will be the administrator table (Dave). This table will contain every active request that the employees submitted.

View Request: The employees and administrators will be able to click a button called "View Request" which is displayed next to each row in the table (Each row contains one issue request). This will open a pop up window that will display the fields described above.

- **Edit Request:** In the view request pop up window there will be a button called "Edit Request". This will give the user an option to edit the fields that they entered before in case they want to update their issue or fix an error. In addition, if they wish to cancel the request they can do this as well.
- **Modify Status (For Issue Status):** In the view request pop up window there will be a button called "Modify Status". This will only be visible by the administrator. This button will be used for changing the status of the issue that was presented. The status options will be "Pending", "In Progress", and "Completed". Once an issue request has been "Completed" it will be deleted automatically from the table.

- **TECHNICAL CHALLENGES - SECURITY / BACKUP AND RECOVERY**

Security - The confidential information that we will be storing is the user's name, email, and phone number. We will make sure this information can not be exploited by making these attributes private.

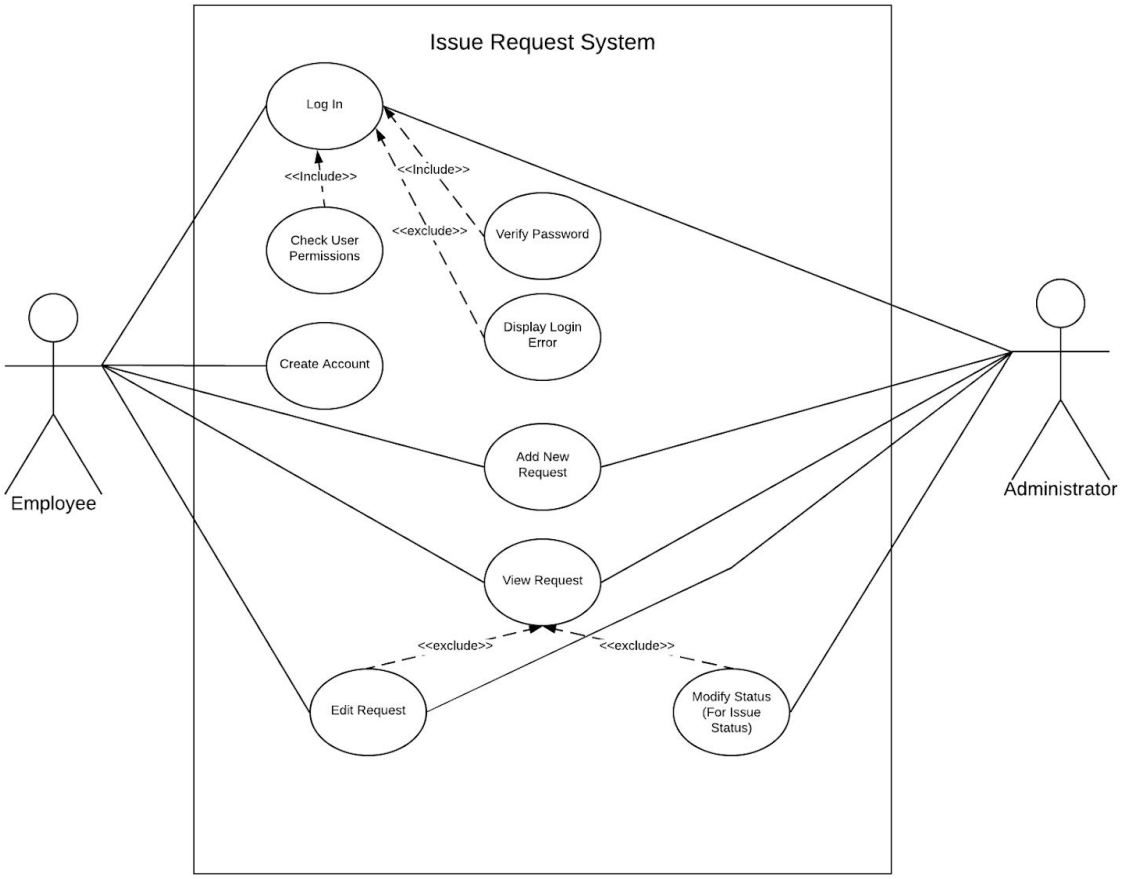
We also plan on protecting the application by using Ruby on Rails framework to protect from SQL injections. We will generate a session ID is using SecureRandom.hex which generates a random hex string using platform specific methods (such as OpenSSL, /dev/urandom or Win32 CryptoAPI) for generating cryptographically secure random numbers. Currently it is not feasible to brute-force Rails' session IDs.

Backup and Recovery - All of our data about the user as well as the data about the issue requests will be stored into a database. We will be using server backup and restore components to secure the information on our users and issue requests.

We will also schedule regular updates for the data to ensure it is backed up on a timely schedule automatically or we will ask Dave to manually back it up the data with a timed reminder alert.

- **UML DIAGRAMS:**

USE CASE DIAGRAM FOR THE SYSTEM:



ANALYSIS CLASS DIAGRAM :