Project Plan

Product Vision

(State your product vision, with any necessary supporting narrative. This should largely mirror the product vision assignment, with corrections or changes based on feedback and learning.)

Vision

What is your purpose for creating the product? Which positive change should it bring about?

The purpose of this product is to assist in crash scene data analysis by performing automatic calculations on data input by the user and generating a report. The positive change is that it eliminates the need for performing the necessary calculations by hand, and prevents mathematical errors as a result.

Target Group

Which market or market segment does the product address? Who are the target customers and users?

- insurance agencies
- law enforcement
- private investigators
- car manufacturers
- civil and mechanical engineers
- attorneys

Needs

W*hat problem does the product solve? Which benefit does it provide?*

- Saves users time by automatically doing tedious calculations
- Improves accuracy by preventing user errors since calculations are done automatically
- Allows user to easily generate a report of the data analysis

Product

W*hat product is it? What makes it stand out? Is it feasible to develop the product?*

- A software application that takes user input, performs calculations, and outputs a report
- The product provides ease of use for the user
- This product stands out because the market is currently not offering anything of its kind, and the current solution for calculating is done by pen and paper

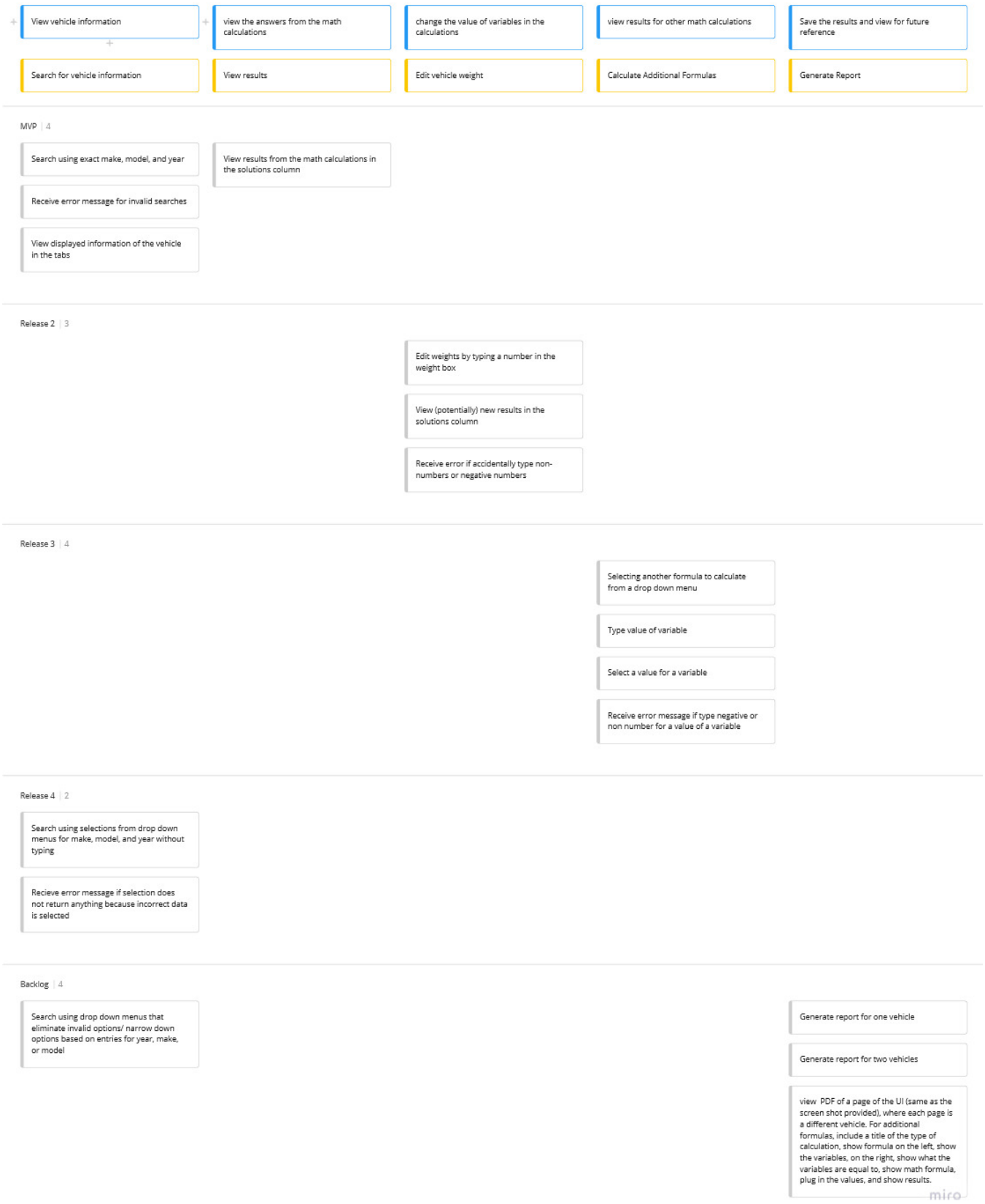
Business Goals

How is the product going to benefit the company? What are the business goals?

- The product will benefit the company by allowing the users of their software to save weeks of time by performing automatic calculations on vehicle data
- Provides accurate results for the solutions from the math calculations

Functional Overview

(You must provide a functional overview of your system. Such a system identifies system users, their goals, and software features that will be utilized to achieve those goals. In class we used a user story map to graphically depict this information. A user story map and some supporting text is the recommended approach. However, other formats are also valid if they capture the necessary information.)



The user story map above lists activities the user would do (blue boxes), our user stories (yellow boxes), and the user tasks (grey boxes) that make up each user story.

User Stories

(You should provide complete user stories for the early functions of your product (3-5 user stories at least, but you should have every story for your first iteration). These should be high priority features that are being addressed early due to importance or risk. The user stories are expected to follow a common, accepted format (e.g. As a <user>, I want to <action>, so that <benefit>) and include acceptance criteria that are detailed enough to execute a user acceptance test.)

- As an investigator I want to be able to search for vehicle information by using year, model, and trim, so that information about that vehicle can be filled into the tabs below
  - **Acceptance Criteria:** The Investigator should be able to search for a vehicle by year, model, make, and trim, and when they click a button, the tabs below should be filled with the additional information about the vehicle. If the investigator uses incorrect information (misspellings, incorrect info, etc), then they will receive an error message. If the investigator does not fill out all fields required, then they will receive an error message saying to fill in the required fields. If the investigator provides vehicle information that is not available, they will receive an error message. Only one vehicle should ever be returned from the search.
  - **Story point estimate:** 13
- As an investigator I want to be able to view results from the math calculations for one vehicle, so that I will be able see the answers of one vehicle without having to do the math by hand
  - **Acceptance Criteria:** Solution boxes get filled in with correct results from calculations. Results should match example search and calculation results that Mike still needs to provide.
  - Story point estimate: 5
- As an investigator I want to be able to edit a vehicle's weight, so that I can see how the results from the calculations change
  - **Acceptance Criteria:** Investigator can change a weight in the tabs on the vehicle picture. Solution boxes are updated with new results from new weights. If the investigator enters a letter, negative numbers, or special character, they will receive an error message.
  - **Story point estimate:** 13
- As an investigator I want to be able to use the vehicle information to calculate additional formulas to get more information
  - **Acceptance Criteria:** Investigator can select another formula from a drop down menu. Investigator can fill in needed variables by typing or selecting values. If the investigator types values for a variable, and they provide non-numbers, then they will be provided an error message. If the investigator does not provide any value, then they will be asked to fill out the field. Solution boxes are updated with formula solutions. Results should match example calculation results that Mike still needs to provide.
  - **Story point estimate:** 8
- As an investigator I want to be able to generate a report of the results, so that I can review for future reference
  - **Acceptance Criteria:** Investigator can click a button and a PDF report with the vehicle information and results is created. PDF should have a page that matches the UI and includes the information for the vehicle. Additional formulas will be on a separate page with a title, the formula on the left, the variables in the calculation, the variables' values, the math formula, and the results.
  - **Story point estimate:** 5

Project Schedule

(Provide a schedule for your project, in terms of sprints and releases, and justify the schedule. Your first two iterations/sprints should be planned. You should include spikes in your plan. Make sure a spike is time-boxed and that there are clear criteria for the spike. Remaining stories should be in the backlog, may require further conversations and planning to be actionable, but should be prioritized.) (Your project schedule should address major risks. These should be called out in your justification.)

Sprint	Sprint duration	Schedule
0	9/15/2020 - 9/29/2020	▪ Spike: ▪ Figure out old team's code and how to start adding to it. ▪ We plan to communicate with past team members ▪ Figure out how to use QT and MySQL ▪ study up on Sql. How to query for and update data
1	9/30/2020 - 10/14/2020	• Two user stories: • As a user I want to be able to search for vehicle information by using year, model, and trim, so that information about that vehicle can be filled into the tabs below. • As a user I want to be able to view results from the math calculations for one vehicle, so that I will be able see the answers of one vehicle without having to do the math by hand • At the end of SECOND WEEK: • MVP • Release 1 • **accomplish:** • Search using exact make, model, year, trim • Receive error message for invalid searches • View displayed information of the vehicle in the tabs • View results from the math calculations in the solutions column

2	10/15/2020 - 10/29/2020	Complete user stories:
		- As a user I want to be able to edit a vehicle's weight, so that I can see how the results from the calculations change
		- As a user I want to be able to use the vehicle information to calculate additional formulas to get more information
		
		- At the end of SECOND WEEK:
		  - release 2
		  - **accomplish:**
		  - Edit vehicle's weight, and edit math calculations to update the results.
		  - edit weights by typing numbers
		  - receiving error message if using non-numbers or negative numbers
		  - results in the solutions column gets updated once the weight has changed
		  - release 3
		  - **accomplish:**
		  - selecting another formula to calculate
		  - type/select values for the variables
		  - receive an error message if the investigator inputs invalid information

3	10/30/2020 - 11/13/2020	Complete user stories:
		- As a user I want to be able to generate a report of the results, so that I can review for future reference
		
		- At the end of SECOND WEEK:
		  - release 4
		  - **accomplish:**
		  - Search using selections from drop down menus for make, model, and year without typing
		  - Receive error message if selection does not return anything because incorrect data is selected

- The first big risk is taking too much time to figure out how to get the previous team's code to work properly. We have a sprint 0 to deal with this setup risk. We also plan to meet with the previous team to discuss their code.
- We could also spend too much time on trying to figure out how to work with SQL, since it has been a while since we last dealt with it, or we have not studied it at all.
- It might take a while to figure out an efficient way to check if the user changed a variable and update the results based on the change.

Team Processes

Configuration Management: (Describe how the team will handle source code control and configuration management.)

- We will use GitHub repository. Each team member will create their own branch, and branches will be merged at each release.

Issue Tracking: (Describe how the team will track defects and other issues that must be accomplished.)

- We will use the Trello board has a feature where we can add comments to the card, containing a user story, and let everyone know the progress of the story, and whether or not it is currently blocked.

Communication Plan: (Provide any documentation on how the team will communicate updates and problems, e.g. regular meetings, and digital channels (including Confluence))

- We have weekly Zoom meetings with Mike on Tuesdays at 11.
- We will use Slack to communicate problems, and ask questions, with Mike.
- We will use GroupMe also to also communicate problems and/or ask questions amongst each other.
- We will meet as a team via Zoom as needed.

Quality Assurance: (Describe the team's approach to generating high quality code. This should be reflected in the Definition of Ready and Definition of Done. Include the types of testing that will be performed, as well as any tools that will be used (e.g. Prettier, esLint for code formatting and static analysis).)

- We will create unit testing classes.
- We will use camelCase for names of variables in code
- Indents in the code will use tabs

Definition of Ready: (Provide the criteria that is used to judge whether a User Story is ready to be included in a sprint.)

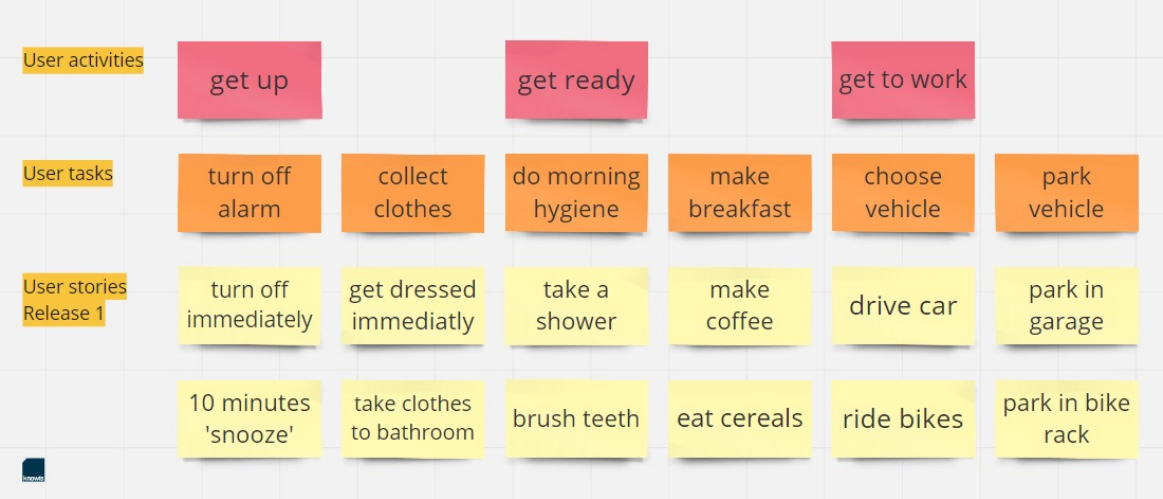
- A user story must have an acceptance criteria
- A user story must not depend on anything else
- The user story must not be blocked
- The user story must have a well defined acceptance criteria

Definition of Done: (Provide the criteria that is used to judge whether a User Story is complete.)

- The user story must be able to meet the acceptance criteria
- The code passes all unit tests
- The code follows formatting standards given in quality assurance

Examples of user story Mapping

Ex1)



Ex2)