COM-430 (Software Engineering) Project – Group 5 – DripCards

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COM-430-CA01

College of CARDS, Saint Leo University

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DripCards GitHub: https://github.com/NaomiNash/DripCards

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Revision History

Date	Version	Description	Author
3/3/2022	1.0	First Draft	Naomi Nash & Daria Pacheco
3/22/2022	1.1	Cleanup of Roles	Naomi Nash
4/18/2022	1.2	Addition of Diagrams	Naomi Nash & Daria Pacheco
4/18/2002	1.3	Added Comments for Revisions	Naomi Nash & Daria Pacheco
4/19/2022	1.4	Revised Based on Comments	Naomi Nash & Daria Pacheco
4/19/2022	1.5	Added diagrams	Naomi Nash & Daria Pacheco
4/22/2022	1.6	Modified report to fit requirements	Naomi Nash & Daria Pacheco
4/24/2022	1.7	Added Customer Statements of Requirements and Stakeholder Requirements	Naomi Nash
4/26/2022	1.8	Added Functional and Non-Functional Requirements and added more diagrams and licensing	Naomi Nash & Daria Pacheco
4/28/2022	1.9	Adding required information from project checklist	Naomi Nash & Daria Pacheco
4/29/2022	2.0	Added Learning Plan Diagrams	Naomi Nash
4/29/2022	2.1	Added captions for diagrams, added step-by-step use case diagram, added tasks and edited user stories, began introductory summary	Naomi Nash & Daria Pacheco
5/1/2022	2.2	Addition of Introductory Summary, creation of Final PowerPoint, Editing of report	Naomi Nash & Daria Pacheco
5/2/2022	2.3	Finalization of Presentation, Report, and Web App Code before submission	Naomi Nash & Daria Pacheco

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INTRODUCTORY SUMMARY

How much easier can life become? Thankfully for the technology in today's world and all the ways it facilitates just about everything we do, there are still so many more possibilities. Though many individuals do not find it feasible that computer software can improve, or perhaps elevate, their styles and sharpen their image, this application will do just that.

DripCards can help coordinate the user's clothing as well as allow them to plan and discover clothing combinations they have never imagined before, along with having the ability to discover which clothing items they really wear and don't wear along the way. Imagine all the exceptional combinations and trend setters this software can discover! With the world so fashion conscious, the Drip Card method enhances the user's capabilities to keep up with the times and with what is trending. This web application also allows for users to communicate with each other through posting comments on other user's posts allowing for an open discourse of current trends and upcoming ones.

The randomness of the selections it offers is the primary appeal of this application. It simplifies the quest for the perfect outfit. Using Drip Cards and Card Decks of all their clothing items gives the user a complete view without having to take everything out of their closet. Of course, there would be precautionary measures and security enhancements that would be made so that the users feel safe no matter their age.

There are many who have already taken interest in the advancements of DripCards. DripCards has already garnered sponsorships and stakeholders from many clothing brands including Hollister, Ralph Lauren, Chanel, Gap, and H&M. Through feedback of interest gathered by outreach online and in person, it will be expected that users of DripCards will include people who are interested in trying to build their own style, blue-collar workers/full-time students who do not have much time in the mornings

to plan their outfits, and online social influencers from social media platforms such as YouTube, Instagram, Twitter, and Pinterest. Managers would be beneficial in managing clothing brand sponsorships and stakeholders as well as promoting the DripCards web application through ad management and promotional movements.

Some roles of people who will be interacting with the DripCards web application the most include, as introduced previously, users with busy lives and little down time, those who are looking to explore the world of fashion, and social media influencers as well as the web application developers. Each of the user roles would be participatory as they are simply using the web application in its complete functionality, while the web application developers would be initiatory as they are the ones creating the application. For the addition of stakeholders and sponsorships, these would be initiatory and participatory as they would help in the development and creation of the web application as well as participating in the fully functional web app through in app ads and Outfit Card theme challenges.

DripCards will be a wonderful application enjoyed by all who are interested in outfits, clothing brands, and the overall world of fashion. From making every day just a bit easier to putting a new fashion sense out to the world, this web application will be a definite game changer to all who use it. All in all, this will be a breakthrough in the fashion industry.

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1. INTRODUCTION

1.1 PURPOSE

The purpose of DripCards is to allow users to plan their outfits for the week without touching their closet. By uploading their clothing pieces into the website, these turn into "Drip Cards" which then can be combined into "Outfit Cards" as they plan their outfits for the day, week, or any occasion. The "Drip Cards" combine into a "Deck of Cards" which represent the user's closet.

1.2 CHARTER

1) Work together as a team to achieve goals

2) Make sure to include the other team member in completing assignments

3) Make sure assignments do not fall on only one person

4) Meet with each other to focus on completing tasks

5) Make improvements when you see them before you forget

6) Ask questions when necessary to not fall behind/get confused

1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

- Drip Cards - Individual clothing item photos that have been uploaded by the user
- Outfit Cards - Collages of Drip Cards/clothing photos that make a full outfit
- Drip Deck - A swipe-able menu that filters through all clothing items/Drip Cards in the user's closet in a "deck of cards" styled format
- World Map - A page where you can look through Outfit Cards that other users have posted around the world after paying the World Subscription
- World Subscription – A subscription that the user pays to have access to the World Map where they can view other user's outfits
- Drip Finder – Cloud Vision API Google Lens tool used to find the clothing items in a person's outfits from the World Map on Google
- Dripsters – The users that use the DripCards applications without the subscription
- Drip Specialists – DripCards users who have the World Subscription

1.4. PERSONAS

1) An everyday user who does not want to sift through their closet to plan outfits

2) An influencer who wants to share their fashion styles to others

3) A hoarder who is looking to get rid of clothing they don't wear often

1.5 INITIAL SCENARIOS

A college student wants to plan out their outfit. The student is not very fashion conscious. However, they want to start dressing differently. Just a fresh start, turning over a new leaf, is all they are looking for. They want to discover what would look great on them. There are many people who have beautiful clothes but either rarely wear them or do not wear them at all, for whatever reason they may have. Some might feel it is the wrong color, does not fit right on their body type or simply they do not like it. With this information, which is a common factor, the college student would like to use an application where people can interchange their clothing or get advice from others with the clothing already in their own closet.

The college student attempts to create the previously described application with great care. There are too many factors they need to consider. The two main objectives are security and the differences in cameras. In order to navigate the application with ease, while paying close attention to peoples' privacy, this application would need to contain security software and a focus tool for the cameras.

1.6 INTIIAL FEATURES

1) Upload page for adding clothes from a user's closet to their Deck of Cards

2) Collage page for creating Outfit Cards from Drip Cards

3) Drip Deck page for seeing a user's closet of Drip Cards

4) World Map, locked behind subscription, to see Outfit Cards others have created

5) Outfit Card randomizer tool that takes a user's Drip Cards and randomizes them into a brand new Outfit Card

6) Timer that says how long an item has not been used for a collage

7) Cloud Vision API Google lens tool used to find clothing items and prices from World Map

1.7 USER STORIES   *(*Note: Each User Story automatically utilizes Initial Features 1, 2, and 3. The first and third User Story both also use Initial Feature 4)*

▫ DripQueen369, a Drip Specialist on DripCards, wants to build her influencer profile on the World Map by posting often to the World Map for other users to see and finding other user's Outfit Card with clothing she likes to gain inspiration from to post more of her own Outfit Cards. She does this in the hopes to gain sponsorships from the clothing brand companies that use the web application to promote their clothing items and to gain followers on the application to spread her own influence and styles.

- ▫ James wants to figure out an outfit for a night out with his friends by using the DripCards randomizer so that he can have a new outfit out of clothes he already has in his closet and feel stylish in an outfit combination he has never worn before.
- ▫ Jessica wants to clean out her closet and maybe create some new clothing combinations in the process. By logging onto DripCards, Jessica checks the clothing timer on her cards to see how long it's been since she last wore the item so that she can get rid of the items she hasn't worn.
- ▫ Madison logs onto the World Map and sees an Outfit Card post from Taylor Swift, a famous singer/celebrity she is following, where she is wearing a beautiful and fashionable dress and she wants to find out where it is being sold. Madison views Taylor Swift's Outfit Card and selects the Drip Finder icon so that she can find what clothing brand company is selling the dress Taylor is wearing so that she can purchase it for herself.

1.8 USER STORIES TASKS

User Story 1

1) Log into DripCards account
2) Create Outfit Cards using DripCards she has in her Drip Deck
3) Open the World Map page of the web application
4) Post her Outfit Cards to the World Map
5) Follow other influencers on the World Map

User Story 2

1) Log into DripCards account
2) Open Drip Deck page
3) Click Random Outfit Card icon
4) Click Save button to save randomly created Outfit Card

User Story 3

1) Log into DripCards account
2) View Drip Deck page
3) View clothing timer presented on each Drip Card
4) Click Delete icon present on each Drip Card to remove the Drip Card from the Drip Deck once she donates each clothing item

User Story 4

1) Log into DripCards account
2) Open the World Map page of the web application
3) Search for specific Drip Specialist user/find Drip Specialist in followers list
4) View Drip Specialist's Outfit Cards
5) Click Drip Finder (Cloud Vision API) icon and view search results of Drip Finder

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2. DETAILS AND DIAGRAMS OVERVIEW

2.1 BACKGROUND INFORMATION

Two fashion interested college students wanting to create a brand new website for those who struggle with making outfits out of the clothes they already own with equally busy lives.

2.2 SPECIFICIATIONS

2.2.1 Functional Requirements

MF-1 – *User uses Google Lens to find new outfits.* Understanding of Google Lens and implementation of a recognition system is required, as well as a database for matching clothing to clothing brand websites online.

MF-2 – *User takes photos of clothing and uses the upload page to create a deck of cards.* An uploading portal is required as well as a simplified collage maker. This also means there needs to be a location where the individual clothing cards, Outfit Cards, and Drip Cards are displayed.

MF-3 –*User goes into account to view collage of Outfit Cards.* A page of previously created outfits by the user is required to display the Outfit Cards.

MF-4 – *User inputs card information to purchase a World Map subscription is required.* This may also require the ability to send a verification email to verify user card and account information.

MF-5 – *User can accept or decline randomized Outfit Cards*. A card randomizer is required to give the user different Outfit Cards. This may require an accept or decline button for the user to keep or delete the outfit.

2.2.2 Non-Functional Requirements

MF-6 – *Timer to tell the last time a card was used*. A simplified timer is required to count up from the last time a Drip Card was used. It may also require the ability to send a notification to the user when it hits a certain max time.

MF-7 – *World map to display special outfits from around the world*. A page to display special event or celebrity outfits is required. An age limiter may also be required to filter out inappropriate content for minors.

MF-8 – *Third party API to protect card information*. A third party API is required to store and protect the users card information for their subscription to the World Map.

MF-9 – *Users can follow each other*. A follow and unfollow feature is required to allow user to follow friends or "style experts". A block button may also be required to allow user to block the accounts the user doesn't want to see.

MF-10 – *Card deck of all clothes*. A visual display of clothes, a Drip Deck, is required to show user an organized list of the clothing they have uploaded from their closet.

2.2.3 Customer Statement of Requirements (CSR)

1 – As someone who has had their information stolen before, I want to ensure that my information is safe and that the security of the application is ensured so that no personal information that is not absolutely necessary will be gathered/stored by the site and used for purposes other than necessary for the application nor have the opportunity to be stolen by hackers

2 – As a concerned parent, I request that the World Map portion of the application should have either an age limit or a feature that dictates what Outfit Cards the user is allowed to see so that underage users do not see outfits that may be inappropriate for minors

3 – As a customer with a form of color blindness I want the coloring of the website, and overall functionalities, be catered to those who may have disabilities so that the application can be used by everyone and not be restricted so that only those who are disability free may use it

4 – As a certain customer with experience in using websites that have hefty lag times due to too many users using the application at once, I want the application to have load balancing features to allow for traffic overflow so that I can avoid down times and slowed loading times when using the website

5 – As an avid user of online applications and annoyed with the overflow of ads that I have seen on other applications, I want, while the website can have ads to generate revenue, that there not be ads that overtake the my view of the application and are placed in hindering places so that I can use the application relatively care free without having to close out ads or look for ad blockers every time I sign on

2.2.4 Stakeholder Requirements

1 – One stakeholder from a large clothing brand explained that the "Drip Finder" Cloud Vision API should direct users that are looking for a specific item from a clothing brand to that clothing brand's site and not a smaller entity trying to resell their items for less

2 – Another clothing brand stakeholder requested that clothing ads from their business should be shown on the website over other products that do not have to do with clothing or the fashion industry

3 – One other stakeholder in the clothing brand industry requested that the World Map Challenges should feature one specific brand for a single week per month to garner attention to that brand from the users on the application

4 – A particular stakeholder requested that there be assurances put in place to ensure that the website does not go down so that their specific ads that are featured on the application do not lose exposure

5 – The last stakeholder requested that uploads to the site should be monitored to allow for no disturbing or inappropriate content that goes past application upload guidelines to be posted so that their brand or company does not receive backlash or a hit to their reputation for having a connection with the application

2.3 PROJECT PLAN SCHEDULE

Week 3 – Getting feedback from peers concerning project and making necessary changes

Week 4 – Revise project and work on coding

Week 5 – Create diagrams and get feedback from peers

Week 6 – Revise code based on feedback

Week 7 – Get feedback for final draft

2.4 INDIVIDUAL LEARNING PLANS

2.4.1 Naomi Nash's Learning Plan
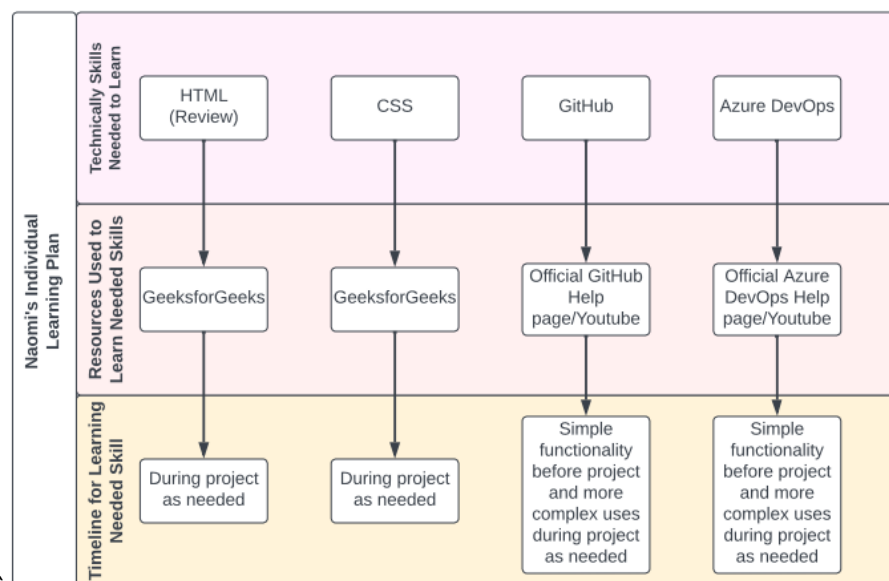
Diagram above shows the different elements that are needed for the project, and how they learned the element and when it was learned, specific to Naomi.
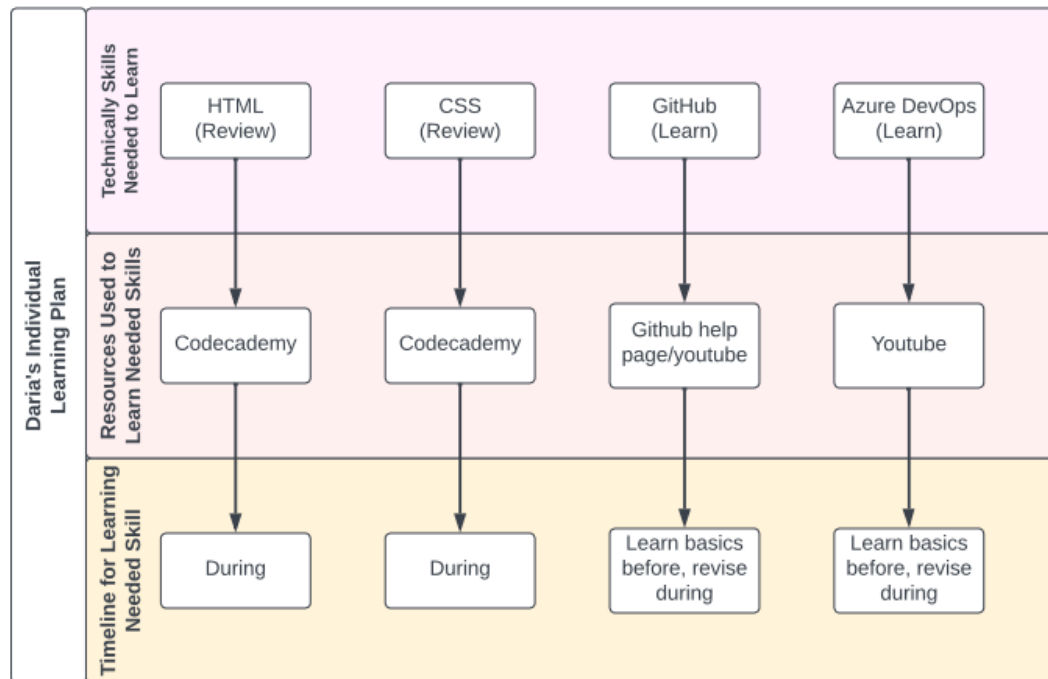
2.4.1 Daria Pacheco's Learning Plan

Diagram above shows the different elements that are needed for the project, how they learned the element and when it was learned, specific to Daria.

2.5 DATA DICTIONARY

- API - application programming interface, which is a set of definitions and protocols for building and integrating application software.
- Structured Database - data that has been organized into a formatted repository, typically a database, so that its elements can be made addressable for more effective processing and analysis.
- Unstructured Database - is information that either does not have a pre-defined data model or is not organized in a pre-defined manner.

2.6 ROLES AND RESPONSIBILITIES

Role	Name	Responsibilities
Team Lead	Naomi Nash	Oversees content creation and ensures tasks are done on schedule
Assistant Lead	Daria Pacheco	Assists in creation and review of content and materials

| Documentation Tester	Naomi Nash and Daria Pacheco	Ensures that documentation about how to use the system matches with what the system does
Code Developer	Naomi Nash and Daria Pacheco	Develops the software for the application
Tester	Naomi Nash and Daria Pacheco	Tests the software

2.7 SOFTWARE DIAGRAM
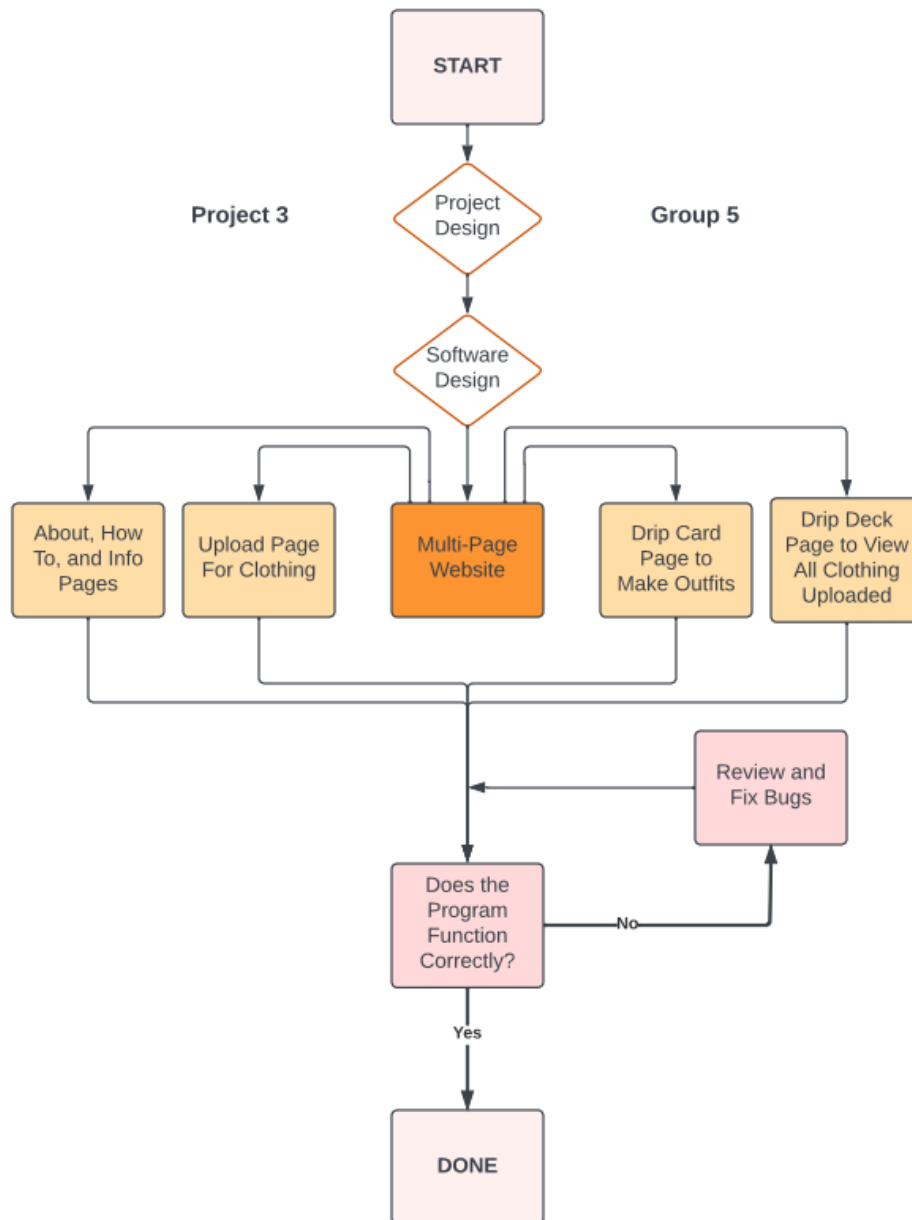
This diagram describes the software step process of going through the DripCards website
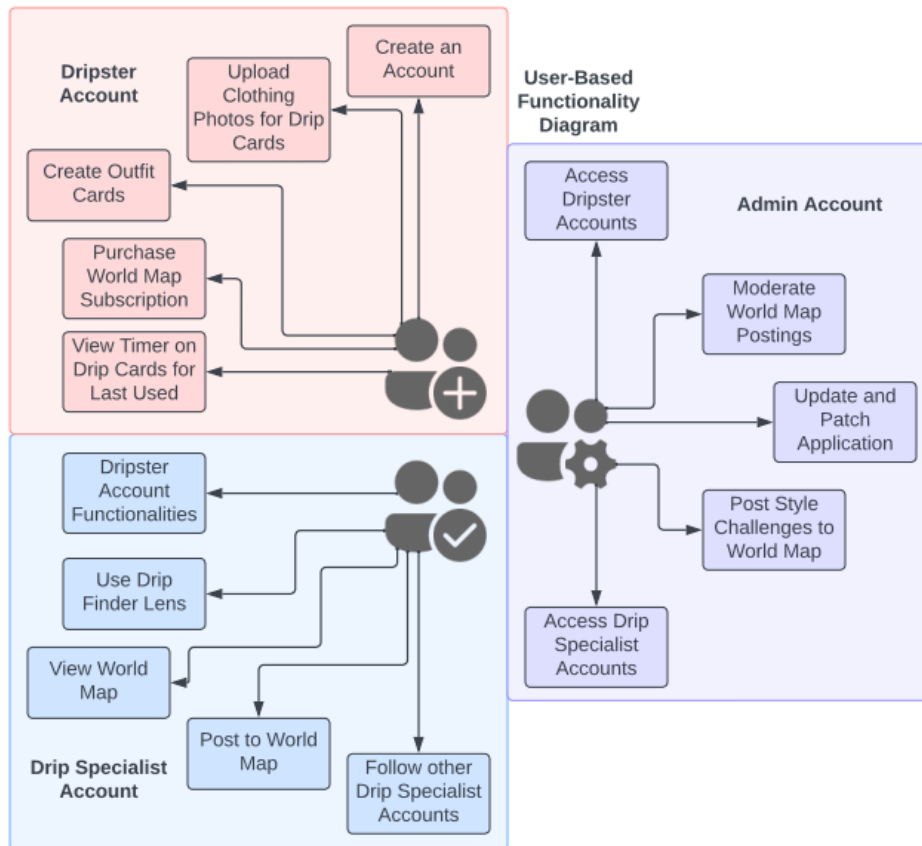
2.8 INFRASTUCTURE DIAGRAM
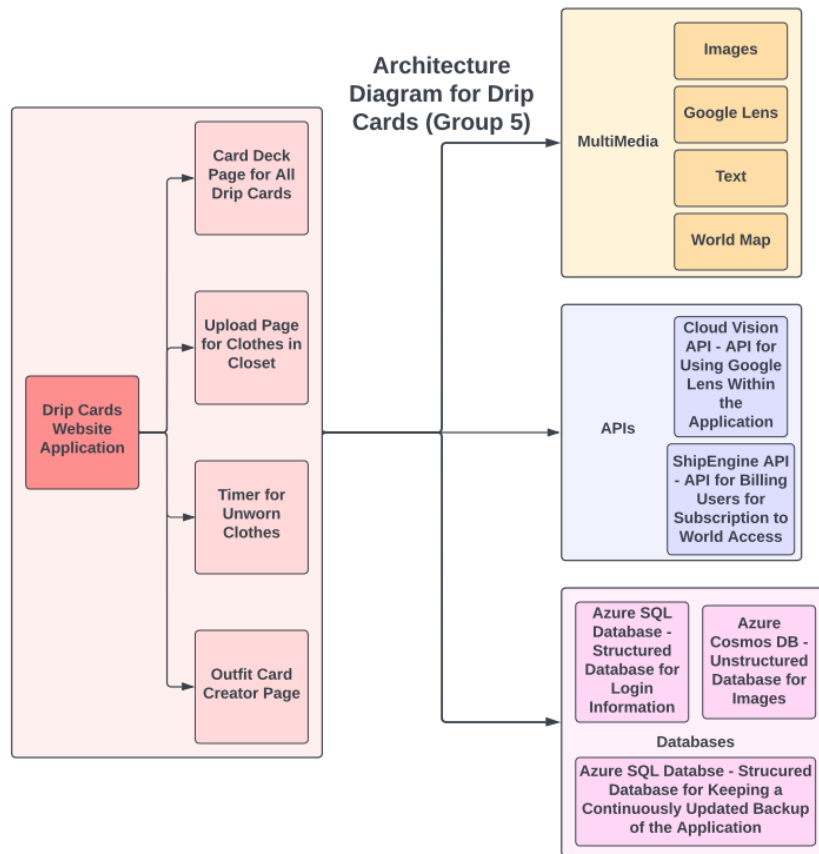
This diagram is an architecture diagram of how the computer software and hardware components are connected.

2.9 USE CASE/PROCESS FLOW DIAGRAM
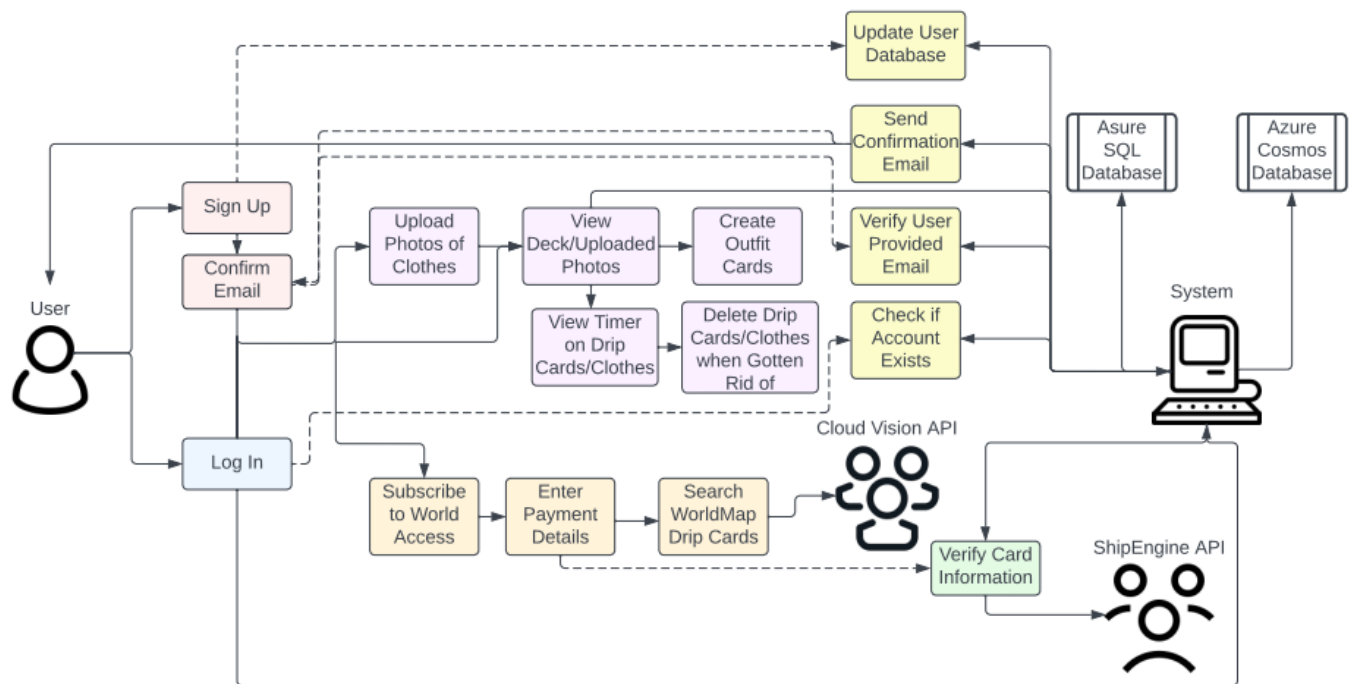
This diagram describes how the user can use the website and how the system responds to each action.
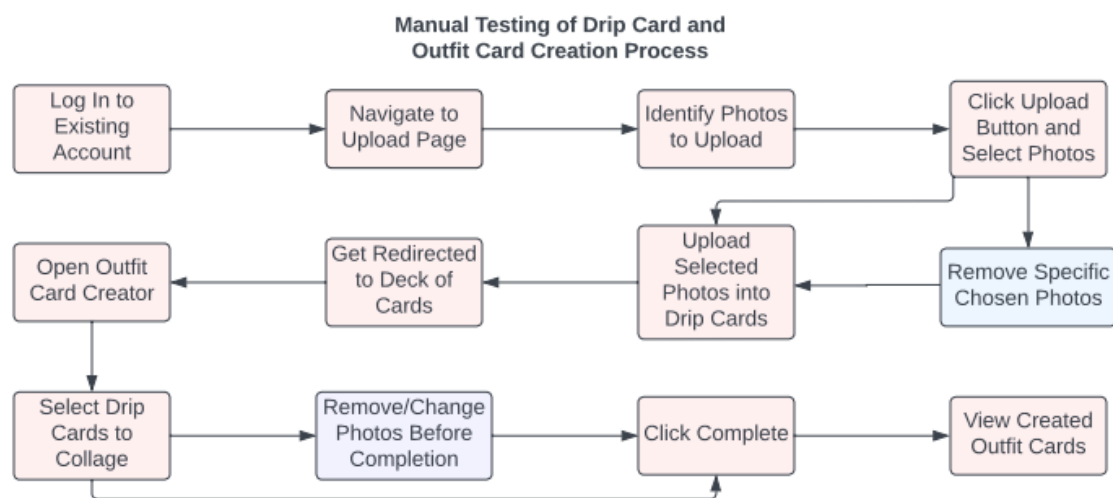
2.10 USER-BASED FUNCTIONALITY DIAGRAM

This diagram describes the different features included for a regular user account, an admin account, and a subscribed user account.
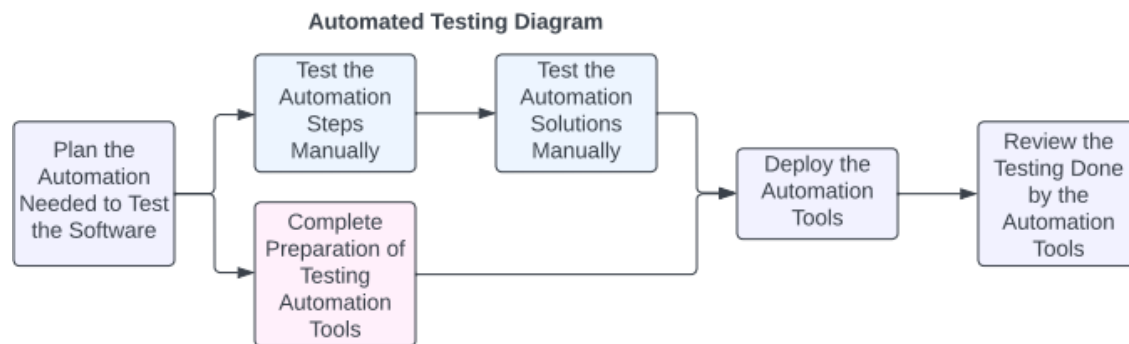
2.11 DATABASE DIAGRAM
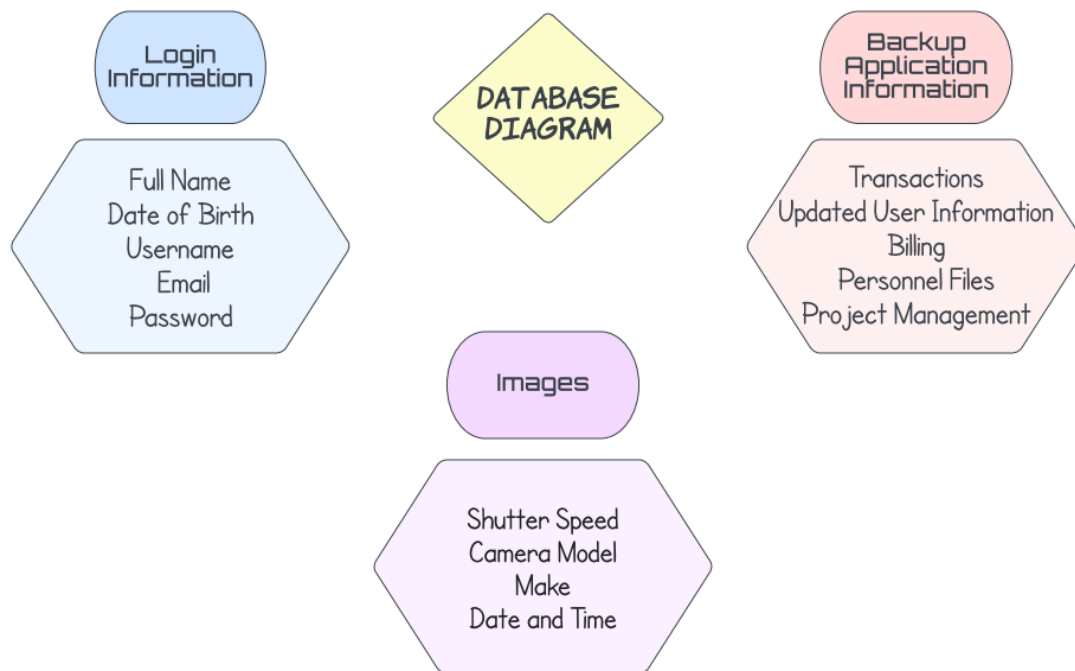
This diagram shows the information that is needed for each database in the system.

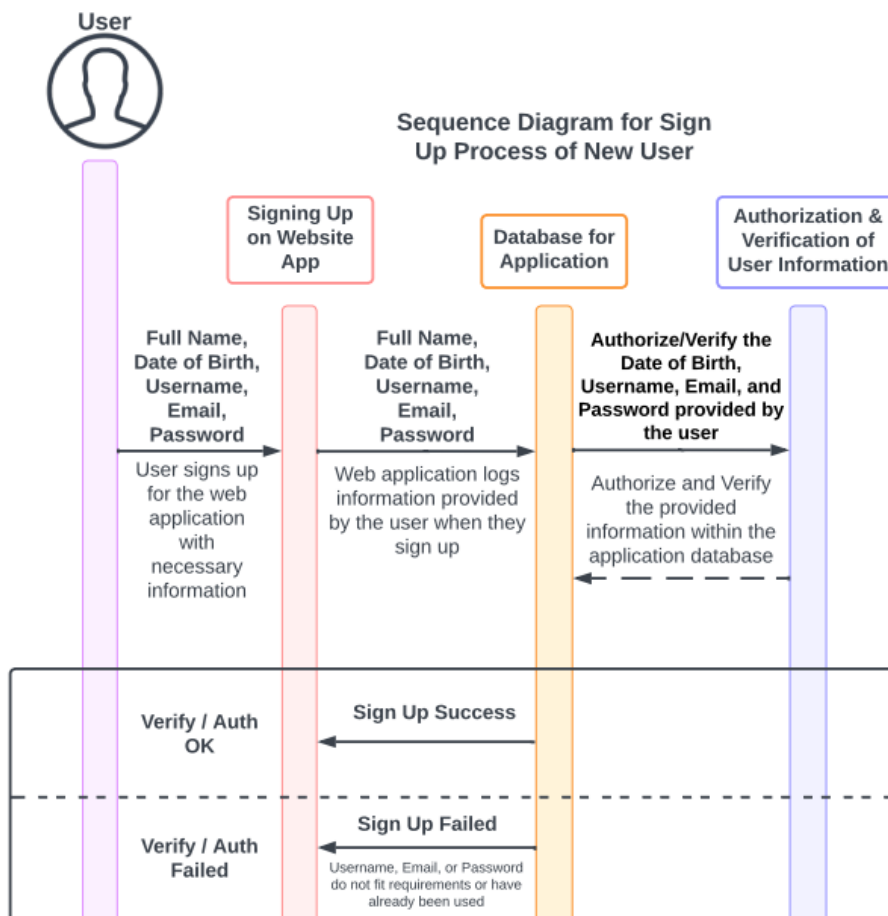**2.12 MANUAL UPLOAD TESTING DIAGRAM**

This diagram describes how a user can upload and delete photos to the Drip Card website.

2.13 AUTOMATED TESTING DIAGRAM

Automated Testing Diagram

This diagram shows how the automated testing process of the Drip Card website is to be conducted.

2.14 SEQUENCE DIAGRAM

Sequence Diagram for Sign Up Process of New User

This diagram shows the sequence process of a user signing up and using the Drip Card website to upload photos, and how the system interacts or verifies each step.

2.15 PLANNING POKER RESULTS

PP-1 ···
Issue 4: User story 2: Version 2 - As a busy person, I want to be able to take pictures and upload items from my closet as Drip Cards so that I can plan Outfit Cards without having to remember everything from my closet or spend time sifting through everything.
Vote again   13

PP-3 ···
User story 1: Version 2 - As a follower of an influencer on Drip Cards, I want to be able to use Google Lens to find what clothing item they are wearing in their outfit card/drip card so I can find it online and purchase it for myself
Vote again   5

PP-5 ···
Requirement 2: Create upload location for photos with security in mind (only allow specific file types, etc.)
Voting now...   8

PP-2 ···
Issue 5: User story 3: Version 2 - As a clothes hoarder, I want to see a timer on each of my Drip Cards showing when I last used that item to make an Outfit card so that I can see what items I don't wear anymore and can get rid of/donate.
Vote again   8

PP-4 ···
Requirement 1: Multi-page website - page for uploading, viewing deck of cards, planning outfit cards, viewing old outfit cards, etc.
Vote again   13

PP-6 ···
Requirement 3: Timer to dictate how long it has been since a Drip Card was used to make a Outfit Card
Vote this issue   8

Photo above shows a list of tasks that need to be completed and how important each admin believes it is to the overall system.
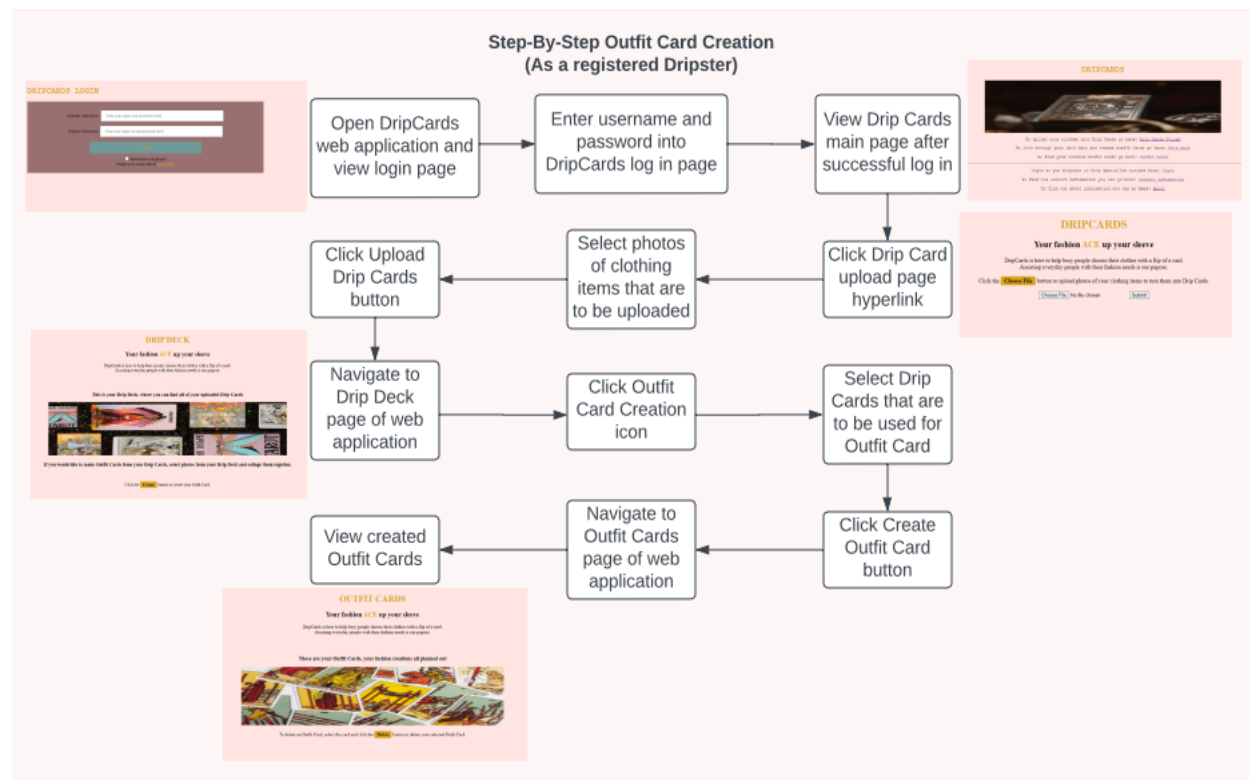
2.16 AZURE SCRUM BOARD

Photo shows a scrum board which helps the admins determine which tasks need to be completed, are in the process of being completed, and are completed.

2.17 STEP-BY-STEP VISUAL DESCRIPTION OF OUFIT CARD CREATION USE CASE

The above visual demonstrates how the user will enter information and navigate the DripCards web application when creating an Outfit Card with accompanying screenshots.

2.18 MEETING NOTES

3/3	Discussed User Stories and Requirements for project
3/17	Built upon current User Stories
3/24	Used Planning Poker to rank all current tasks (User Stories and Requirements)
3/29	Discussed what example project to use as the base for DripCards
4/18 Morning	Met with Dr. Adams in office hours to discuss project issues
4/18 Night	Created diagrams and commented and start revisions on report
4/19 Morning	Finished revisions on report
4/19 Night	Created diagrams and added to report
4/22	Modified report to more closely reflect needed requirements
4/26	Added Functional and Non-Functional Requirements and added more diagrams and licensing; Discussed next steps for project
4/27	Met with Adams to discuss the different questions held about the project and obtained really helpful feedback
4/28	Added information to the report based off of the requirements on the checklist, added to the GitHub ReadMe file, and edited the HTML code for the DripCards web application

4/29	Added Individual learning plan visuals into report as well as captions for diagrams and continued next steps of checklist including tasks, user stories edits, and introductory summary
5/1	Added the Introductory Summary, created the Final PowerPoint, and made edits on final report
5/2	Finalized each portion of the project including the report, code, and presentation.

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3. RULES

3.1 CONFIGURATION MANAGEMENT RULES

How will GitHub be used for the Team project?

> GitHub will be used for coding inspiration and assistance. GitHub will also be great for keeping all project files saved and organized. It also allowed us to both work on the project without interference and allowed the ability to access the files at any point.

What are the rules around commits and branches?

> We will always issue a pull request for code changes unless working together at the time, then use commits. We will make branches only when necessary, and make sure they are organized. It is also important that we keep all members updated on any changed made to the repository.

What is expected of commit messages, and how will this be enforced (if it is)?

> Commit messages are only made when currently together or speaking over the phone, and it will be enforced with mutual trust.

What type of workflow will be used

> Workflow will be split up using branches by parts/sections of the project, i.e., development/production branches, Daria/Naomi branches, etc. which would eventually all go into a main/parent branch for the final product. It will start off working on basic web design then eventually work on up.

3.2 CODE RULES

What is the technology stack?

> 1) Windows (Operating system)
> 2) Microsoft Office (Presentation software)
> 3) HTML (Programming language)
> 4) GitHub
> 5) Google Lens
> 6) Azure DevOps

How can new team members get set up (onboarding)?

> New team members will meet with a current member of the team to work through the onboarding process. During this, a current member will walk the new team member through each part of the

current code set up, ideas that have been previously tested, and rules for handling the code and introducing new code to the project.

What linters and analysis tools will be used?

The linters and analysis tools that will be used are HTMLHint (https://github.com/yaniswang/HTMLHint) and/or HTML Inspector (https://github.com/philipwalton/html-inspector).

Are there other ideas for tools that need to be explored?

The team will need to explore the third party APIs "Cloud Vision" (Google Lens) and "ShipEngine" (payment system).

What technologies do some team members need to learn?

HTML needs to be reviewed by both team members, and the linters that we discovered will need to be learned by both members. GitHub and Azure DevOps will need to be practiced more as well to be able to be used effectively and efficiently during the development process.

How has this been factored into the project plan?

We will be reviewing technologies before we begin working on the project, during the initial stages, so that we will be prepared later. We will also learn and research more as we go when necessary.

3.3 TESTING RULES

At a high level, how will you test your product?

We will be testing the code by running the code manually and testing each step of the apps use in order so that we can catch problems earlier in the program's development.

You need to automate at least part of this this semester, so how can you automate?

The process that we will take is planning the automation that we need to test out web application, then we will either complete the preparation of testing the automation tools or test the automation steps manually as well as the solutions manually. Following these steps, we will deploy the automation tools and conclude by reviewing the testing that was done by these tools.

How does testing interact with commits

We will definitely test before committing each time as all tests should pass before code is committed to ensure bug free instances every step of the way.

Security

What aspects of the stack will need more security than others?

Uploading photos should have some security features so that not all files in the user's devices can be seen by the application, but also so that no unacceptable file types can be uploaded. There will also need to be security surrounding the user login as well as billing information.

Where do you think security factors in during development?

Security should be considered at <u>every stage</u> of the development process no matter what.

What tools will be used?

1) Windows (Operating system)
2) Microsoft Office (Presentation software)
3) HTML (Programming language)
4) GitHub
5) Google Lens
6) Azure

Licensing

The license we will be using is the MIT license. It is an open-source software that allows us to modify or sell without any restrictions.

APPENDIX

Individual Contributions Breakdown

Naomi Nash and Daria Pacheco completed this software engineering project and the creation of the DripCards web application as a team, with times where they worked together on portions of the application and project as well as separately. The items they worked on together include the uploading of project oriented documents to the DripCards GitHub repository and developing and coding the web application in HTML. Portions of the project report that were created and developed as a team include the Revision History Table, Introductory Summary, 1.1 Purpose, 1.7 User Stories, 1.8 User Stories Tasks, 2.2.1 Functional Requirements, 2.6 Roles and Responsibilities, 2.15 Planning Poker Results, 3.1 Configuration Management Rules, and 3.3 Testing Rules. Both members also contributed to giving other teams feedback on their project items as well as editing the DripCards project items based on other team's feedback.

As for the items they worked separately on, the portions of the project Naomi created and/or worked on include the GitHub DripCards repository creation, GitHub folder organization, as well as the parts of the report that include the cover page, Tables of Contents, 1.2 Charter, 1.3 Definitions, Acronyms, and Abbreviations, 1.6 Initial Features, 2.2.3 Customer Statement of Requirements (CSR), 2.2.4 Stakeholder Requirements, 2.4.1 Naomi Nash's Learning Plan, 2.7 Software Diagram, 2.8 Infrastructure Diagram, 2.9 Use Case/Process Flow Diagram, 2.10 User-Based Functionality Diagram, 2.12 Manual Upload Testing Diagram, 2.13 Automated Testing Diagram, 2.14 Sequence Diagram, 2.16 Azure Scrum Board, 2.17 Step-By-Step Visual Description of Outfit Card Creation Use Case, 2.18 Meeting Notes, 3.2 Code Rules, and the Appendix, as well as the accompanying presentation.

Daria created/worked on the portions of the project that include 1.4 Personas, 2.5 Initial Scenarios, 2.1 Background Information, 2.2.2 Non-Functional Requirements, 2.3 Project Plan Schedule, all diagram/visual descriptions, 2.4.1 Daria Pacheco's Learning Plan, 2.5 Data Dictionary, and 2.11 Database Diagram.

As this was a team project, it is important to note that ideas may have been passed between both Naomi and Daria for each portion of the project, even if one was specifically created/written/developed by one team member or the other.