

# Personality Based Coaching / Mental Health Mobile Application

Design Document

**Team Number:** 9

**Client:** ColorWorks – Rebecca Bockart and Shannon Ward

**Advisors:** Prof Judith Islam, Xinyao Li

**Team Members and Roles:**

Charlene Baes (Team Manager), Callie Bockart (Communication Lead),

Rachel Schnepf, Leah Wamsley, Jason Kraisser, Samantha Neri

**Team Email:** [sdmay24-09@iastate.edu](mailto:sdmay24-09@iastate.edu)

**Team Website:** <https://sdmay24-09.sd.ece.iastate.edu/>

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# Executive Summary

## Development Standards & Practices Used

- Git
- VS Code for REACT and Git IDE Integration
- IOS development tools
- Integration / Unit Testing
- Camel Case Variable and Class Naming
  - Self-naming methods and classes
- Commenting Your Code
- One team member must approve of code before pushing to master
- Create branches for all changes!!!!
  - Name them something useful / applicable
- Clean-up branches and pull requests when completed
- Move user stories to correct progress columns when necessary:
  - Ready for Development, In Development, Code Review, Test Ready
- Standard CSS and HTML requirements given from the company (same fonts and colors and titles)

## Summary of Requirements

- Create a fully functioning mobile application for Color Works to provide users with differently tiered plans that provide users with access to different features to aid in personality coaching.
- Each user will be able to view personalized information in the application depending on the results of the personality quiz that indicate their primary color, secondary color, and interaction style.
  - Tier 1 (Bronze Plan)
    - Free for individuals
    - Create one profile
    - Can take quiz and store their information
    - Short but useful color descriptions and general information
    - Basic level hints and tips (3 stress behaviors, 4 traits, 6 life hacks for work relationships and family)
  - Tier 2 (Silver Plan)
    - All features of tier 1
    - Allow the user to add an additional profile to their account
      - This allows two accounts to be under one profile, allowing for easy switching between profiles and access to both profile's information
    - New features that provide personality coaching (*these features are just additional information and activities that have been created by ColorWorks*):
      - 3-word analyzer
      - Building blocks of triangle
      - Hints and tips (expanded life hacks, work, love, recharge, parenting, leadership).
  - Tier 3 (Gold Plan)
    - For family or teams (up to 10 profiles)
    - All features of tiers 1 & 2, entire group profiles (family or team up to 10)
    - New features that provide personality coaching (*these features are just additional information and activities that have been created by ColorWorks*):
      - Communication Styles

- Ask, Be, Do
- CALM
- Activities – Bead Boxes
- Conflict Square’s Building Trust

### Applicable Courses from Iowa State University Curriculum

- SE 319 – Intro to web design
- SE 409 – Software Requirements Engineering
- COMS 309 – App creation
- COM S 363 – Introduction to Database Management
- SE 329 – Introduction to Project Management
- CPRE 388 – Mobile Platforms
- SE 317 – Introduction to Software Testing

### New Skills/Knowledge acquired that was not taught in courses

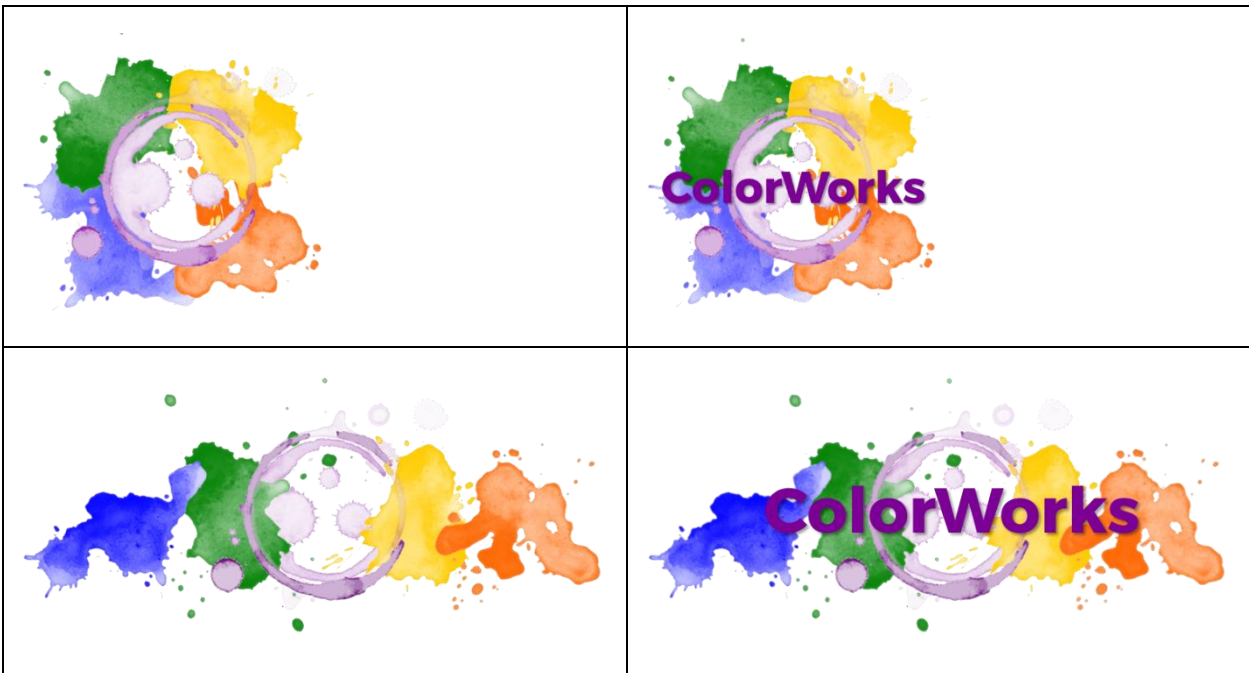
- IOS App development
- Work in React
- UX/UI Creation from scratch
- Spotify podcast creation
- Separation of video and audio in large recording files
- Use of (whatever the audio website they are using now is)
- Third-party payment system integration

### List of figures/tables/symbols/definitions

#### Company Info

<p><i>Fonts</i></p> <ul style="list-style-type: none"> <li>• Montserrat - we use this for body text, and when <b>BOLD as a headline;</b> <b>ColorWorks</b> in the logos attached are Montserrat.</li> <li>• Bebes Neue Bold - we use this as a headline or to stand out</li> <li>• Saturday Script - we use this to distinguish between our company divisions, such as</li> <li>• Parenting by Personality</li> <li>• Teaching by Personality</li> <li>• Leading by Personality</li> </ul>	<p><i>Colors</i></p> <ul style="list-style-type: none"> <li>• Our Signature ColorWorks</li> <li>• PURPLE: 7D0096</li> <li>• Light Purple: E5CCEA</li> <li>• Blue: 0000FF</li> <li>• Green: FF8000</li> <li>• Orange: FF6600</li> <li>• Gold: FFCC00</li> </ul>
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#### Logos (Non-Transparent)



## 1. Team

### 1.1 Team Members

Charlene Baes, Callie Bockart, Rachel Schnepf, Leah Wamsley, Samantha Neri, Jason Kraisser

### 1.2 Required Skill Sets for Your Project

- App development
- Work in React
- UX/UI Creation from scratch
- Spotify podcast creation
- Separation of video and audio in large recording files
- Use of (whatever the audio website they are using now is)
- Third-party payment system integration
- Soft skills including communication and teamwork

### 1.3 Skill Sets covered by the Team

- Soft skills including communication and teamwork – All Team Members
- React app development – Charlene, Callie, Leah, Jason
- Figma – All Team Members
- SQL – Rachel, Callie, Leah, Jason, Charlene
- JavaScript – All Team Members

### 1.4 Project Management Style Adopted by the team

Our team has 2 Leads, but everyone will work together and pitch ideas equally.

We will adopt Agile project management with varying amounts of weekly and monthly stand-up meetings with the

teaching assistant, client, team, and academic advisor.

## 1.5 Project Management Roles

Charlene Baes – Project Manager, Application Developer  
Callie Bockart – Communication Lead, Application Developer  
Jason Kraisser – Minutes Manager, Application Developer  
Rachel Schnepf - Minutes Manager, Application Developer  
Samantha Neri - Minutes Manager, Application Developer  
Leah Wamsley - Minutes Manager, Application Developer

## 2. Requirements, Constraints, and Engineering Standards

### 2.1 Problem Statement

Create a user friendly, informative app to provide coaching for parents, military service personnel, and any other client looking for coaching with inner personal skills to strengthen relationships. This company strives to bring stability into people's lives through understanding and personality-based coaching; our app will reflect this. Through clear UX/UI design, supportive information, and interactive activities we hope to bring relationship conflicts amongst people down and as a result lower suicide rates amongst military service people as well.

### 2.2 Requirements & Constraints

Functional Requirements (each plan has its own requirements)

- The application shall be accessible on both Android and iOS devices
- The application shall have three different plans that build-off of each other to provide users with different features
  - Bronze / Free Plan
  - Silver Plan
  - Gold Plan

*These categories have been sorted by core features and will have varying requirements based on their membership plan:*

#### Account Profiles

- If the user has a Bronze plan, they will only be able to have one profile under their account
- If the user has a Silver plan, they will be able to add one addition profile under their account, for a total of two profiles
- If the user has a Gold plan, they will be able to add an unlimited number of profiles under their account
  - Fit Criteria: The user will be able to switch between their profiles
    - Each profile will show the respective information for the colors and interaction style of the users.
  - Rationale: This additional profile can be used for the user's partner, parent, boss, child, etc. This makes it easier to access the information of their joint profile

#### Quiz

- The user will be able to take a personality quiz that will indicate their primary and secondary colors, and their interaction style.
- When the user decides to take the quiz, a pop-up message shall appear that states the following:
  - "This quiz will take up to 30 minutes to complete."
  - Rationale: This message alerts users that they should allot at least 30 minutes to complete the quiz so they can provide thorough answers to each question
- When the user opens the application for the first time, the user will be asked for their name before taking the

personality quiz

- After the user takes the quiz, they will be able to see personalized information regarding their primary and secondary colors, and their interaction style
  - This is a segway shortcut to the General Information page
- After taking the personality quiz,

#### Change Your Color

- The user will be able to manually change their color
- The user will be able to view their Myer Briggs results to the corresponding colors conversion chart
- The user will be able to retake the personality quiz

#### Home / Library Page

- The user shall be able to view all the categories of information in the Home / Library page
  - These categories include Personalized Information, Relationships, Career, Relaxation, Build a Better Relationship, Common Conflict, 3 Words, Ask Be Do, Parenting, Kids, and Educators
- When the user clicks on a category's tile, they will be redirected to that page

#### Category Pages

- The user will be able to access the category pages by selecting on its corresponding tile on the Home / Library page
- When opening a category page, the user will be able to view a "Select a Profile" dropdown menu.
  - This dropdown menu will contain all the profiles under the account
- When the user selects a profile from the dropdown, the page will re-render to display the information personalized to the colors and interaction style of the selected profile

#### About Us / History Page

- This page can be accessed using the side menu in the top header and clicking "About Us"
- The user will be able to view pictures of the ColorWorks staff and their roles at the company
- The user will be able to view ColorWorks staff contact information to inquire about / schedule 1 on 1 coaching sessions
- The user will be able to view information regarding the history of the ColorWorks company and staff
- The user will be able to view the history behind the colors and how they came to be

#### All Colors Page

- This page can be accessed using the side menu in the top header and clicking "All Colors"
- The All Colors page will display all 4 colors and give a brief description and high-level overview of each one

#### Messaging

- If a user has a Gold membership plan, they will be able to message ColorWorks staff one-on-one
- A disclaimer will appear indicating that staff may not respond until 7-10 days after the message is initially sent
- The user will be able to link their email to the messaging page in the application
  - Rationale: This will make communication between the users and the ColorWorks company easier instead of relying on email communication.
- The user will receive helpful tips of the week from the ColorWorks company
  - These tips of the week will be universal for all accounts
- The user will be able to ask questions to the messaging bot. There will be a library of questions that the user can choose to ask, and the bot will be able to answer
- If the user's questions are not able to be answered by the bot, the ColorWorks company staff will be contacted to respond to the user

#### Membership Upgrade Page



- The user will be able to view the features provided by all three plans (Bronze, Silver, and Gold) and may choose to upgrade or downgrade their plan
- The user will be able to view the pricing of each plan

#### Settings Page

- The user will have access to settings to change profile information, account settings, and membership plans
- Upon creation of their account, the primary account owner will receive or create a 4-digit pin that is their master lock to account settings
- If the user enters the correct PIN, they will have access to modify their membership plans and change their password in account settings
- The user can change their username and password, change individual profile information, or change their membership plan if needed.

#### Games & Activities

- The user will be able to play an interactive game with characters (*the game has already been made by ColorWorks*)
  - “How can you respond to X situation happening?”
  - Emotional awareness game that dissects the thought process of the user
- The user will be able to play a Building Blocks of Change game
  - The user will be given a situation and will be able to see options for how to handle the situations and implement change

#### Additional Information Regarding Application Contents

- The client is providing us with creative freedom for the look of the app
  - We want consistently across platforms:
    - font
    - color
    - branding
  - Content will be provided to us -> all inserted information
  - Clients will provide us with information regarding our CSS and HTML implementation in the application
- Want this to be quick information available
  - Not overwhelming information
  - Lots of pictures and quick information

#### Creating an account and logging in

- The user will be prompted to Create an Account after viewing their quiz results
- The user will have the ability to log in and out of the application
- Teachers and the military will be given codes that can be used to access discounts on memberships

#### Non-Functional Requirements

##### Resource Requirements

- Hostgater Server
- React Implementation (most likely through vs code)
- Figma (talk to client about the paid version)
- Icon Library (client's choice)
- Payment Processing Company

##### UI / Usability Requirements

- The Color Works application shall use the company colors and logos (UI requirement)
- The application shall present information in an organized manner (usability requirement / UI)
- The application should lack any spelling errors

- Each page of the application shall be easy to read
- Pages should be intuitive to find the information you are looking for
- Pages within the application shall be easily accessible by use of navigational menus and buttons

#### *Performance Requirements*

- Run at a user-friendly speed, should not have to wait for a page to open for 5 minutes
- More accounts used on the app does not slow down the app processing speed
- Changing of personal information or color types would result in automatic updating in files

#### *Legal Requirements*

- Possible working with military for granting access to the elite level through a nonprofit organization
- Payments for different levels of the app
- User privacy (agree to terms and service checkbox when you sign up to the app where we also explain their information will not be leaked to the public)
- Working with the company's confidential information, as this information can be paid for.

#### *Maintainability Requirements*

- The application shall support the addition of new or changed information
- The application shall support the addition of inexperienced users or groups
- Comprehensive documentation shall be provided to the client including code comments, class diagrams, and user guides to understand the app's structure and functionality

#### *Testing Requirements*

- UI tests shall be developed implementing automated testing to catch bugs early in the development process
- UI tests shall be developed for each page of the application and will include the verification of each interactable element
- Each UI test shall be tested by the creator and looked over by another person on the team to make sure no other testing information was missed.
- Testing on all age ranges from children to elderly, including veterans once the application is mostly completed.

#### *Security Requirements*

- Sensitive data shall be encrypted if stored in databases or on a disk
- The application shall enforce password complexity rules for user accounts
  - Minimum length of eight characters, use of at least one special character and one capitalized character
- The application shall implement secure error handling to avoid exposing sensitive information
- The "parent" account will be allowed to adjust the other "children" accounts but there will be a passcode or face identification to change certain information such as: change your color, retake quizzes, change personal/account information, or passwords (this way a child cannot go in and change a bunch of their parent's account info)
- Developers shall assess the security of third-party APIs and services before integrating them into the application
- Make sure that the payment company we decide to work with in PCI compliant

#### *Constraints*

- Timing Constraint: Fully usable mobile application must be developed and tested in 8 months
- Certain UX/UI design implements from the company (such as using their logo, fonts, and general content)
- Priority is functionality for company after this group is done working on the project (so company can maintain and continue using this app)
- The application must be able to run on both IOS and Android devices.

## 2.3 Engineering Standards

What Engineering standards are likely to apply to your project? Some standards might be built into your requirements (Use 802.11 ac Wi-Fi standard) and many others might fall out of design. For each standard listed, also provide a brief justification.

- IEEE 802.11 ac Wi-Fi standard
- IEEE 610.12-1990 standard glossary of software terminology
  - This glossary defines terms in the field of software engineering including topics such as compiling, data types, errors, faults, failures, language types, libraries, software documentation, software and system testing, and many more than are applicable to our work within the scope of this project and its process.
- ISO/IEC/IEEE 29148-2011 International Standard – Systems and Software Engineering – Life Cycle processes – Requirements

## Engineering

- Contains provisions for the processes and products related to the engineering of requirements for systems and software products and services throughout the life cycle. It defines the construct of a good requirement and discusses the iterative and recursive application of requirements processes throughout the life cycle. Creating requirements are the foundation of this project, and these practices will be used throughout the project's life cycle.

## 2.4 Intended Users and Uses

Who benefits from the results of your project? Who cares that it exists? How will they use it? Enumerating as many “use cases” as possible also helps you make sure that your requirements are complete (each use case may give rise to its own set of requirements).

### Users

- Veterans and members of their families when adjusting back to home life after their service.
- Active-duty personnel who are on leave or about to be sent away for long periods of time struggling with readjustment to family structure vs military life
- Individuals who are struggling with their self-identity and mental health.
- Teams in the working environment, who could benefit from a more cohesive approach.
- Partners in a relationship need a better way to communicate with one another.

### Uses

- Coaching individuals on personality-based training to deal with difficult conflicts within their personal or professional relationships
- Suicide prevention amongst military service people who find it hard to emotionally mesh with their spouses and family members after deployment for long periods of time
- Parents working with children who are color conflicting personalities can use games and activities to create stable relationships into adulthood
- Help the user understand themselves and others to promote more effective and healthier communication.

## 3. Project Plan

### 3.1 Task Decomposition

Total Developers: 6

Total Timeline: 7-8 Months

#### **Timeline Breakdown**

Create Schedule: 1 week

Initial Requirement Collection: 2 weeks

Figma Designs: 2-3 Months

Plan 1 (Bronze): 2 –3 weeks

Personality quiz, profile, ability to refine “colors” determination, colors description, hints and tips

Plan 2 (Silver): 2 –3 weeks

All features from bronze level, extra profile page, 3-word stress analyzer, building blocks of change, hints and tips (deep dive)

Plan 3 (Gold): 2 –3 weeks

All features from silver level, up to 10 profile pages, communication styles, ask/be/do, CALM, activities (bead boxes, conflict squares, guiding trust)

Modified Requirement Collection: 3 weeks

Get approval and Change Figma Designs after each plan is fully developed

Plan 1 (Bronze): 1 week

Plan 2 (Silver): 1 week

Plan 3 (Bronze): 1 week

Development and Testing: 4 - 5 Months

Plan 1 (Bronze): 1.5 - 2 months  
Plan 2 (Silver): 1.5 - 2 months  
Plan 3 (Gold): 1.5 - 2 months  
Modified Development from Client: 3 weeks  
Plan 1 (Bronze): 1 week  
Plan 2 (Silver): 1 week  
Plan 3 (Gold): 1 week  
Final Testing: 2 weeks  
Plan 1 (Bronze): 1 week  
Plan 2 (Silver): 1 week  
Plan 3 (Gold): 1 week

## 3.2 Project Management/Tracking Procedures

### Project management style:

Waterfall +Agile

### Justifications:

- Project management implements waterfall since will have tasks completed in a scheduled order. We tend to base the objective of our meetings on upcoming assignments and deadlines.
- Client will be consulted prior to a task and after completion. Agile style is implemented by obtaining feedback from the client after certain requirements are met.

### Tools to help track progress:

We will be utilizing the issue board on Git to help keep track of assignments and their completion progress. The issue board notifies the status of each task whether it's been completed, in progress, needs help, or has not even been started.

## 3.3 Project Proposed Milestones, Metrics, and Evaluation Criteria

### Milestone 1.) Create Figma Designs

- 90 % accuracy of headers and footers of each screen.
- 70% of screens are completed for each plan. Includes mapping of buttons and corresponding texts.

### Milestone 2.) Development and Testing

- 80% documentation and commenting of code completed in standard.
- 50% units tests for each plan.
- 100% accuracy for each unit test developed.
- Have at least 1 other person review code and make sure it's 90% accurate

### Milestone 3.) Modified Development from Client

- Implement 100% of modifications given by the client
- 100% understanding of what the client needs/want
- 80% understanding from client's tech supervisor\

### Milestone 4.) Final Testing

- 100%-unit tests for each plan, with 100% accuracy
- Soft launch, 90% accurate for all users
- Have 2 people review code



we decided to identify risks that could potentially cause unexpected delays or obstacles during our project

#### Testing:

- Testing with the client ensures that the usability of the app is up to their standards.
- QA testing will occur before each pull request is approved to ensure that the alignment of components and the functionality listed in the task works as expected
  - There are two risks we can choose from when QA Testing:
    - I. This is a very time-costly activity if we want to extensively test on the QA side
      - Extensive testing, however, can also lead to the discovery of more requirements that can be discussed with the client. It can also lead to Customer Friction reviews by carefully examining the workflows within our application and seeing if they are easy to follow or if we need to simplify our code.
    - II. To save time, we could limit the extensiveness of QA Testing, but this could cause many bugs to arise without carefully testing our code.
- Unit tests will verify that the elements on each page work as expected
- Unit tests will verify that the HTTP requests are returning the correct information

The most extensive risk with testing is the cost in time that it takes to develop unit tests, QA tests, and workflow testing. However, testing is critical to developing a maintainable codebase and a sustainable product. While this may be time consuming, we have decided that since it is critical that the users are able to easily use our app without bugs, testing will need to be integrated into our project plan.

#### Compatibility issues:

- The app needs to be both Android and Apple friendly.
  - Testing can be time consuming for needing to test both on Android and Apple devices. Even though we are planning on using React, which is a framework that makes the development on both platforms compatible, we still need to be sure that it works on both as expected.
    - This will double our cost of testing, but again, we have found this risk necessary to take
      - Each team member can be responsible for QA testing components developed by each other on both Android and Apple platforms.

#### Third party Dependencies:

Working with a third party to help set up the payment portion of this application while remaining PCI compliant.

- Working with a third-party dependency for the payment of this application is a huge security risk that Color Works will be taking to have a payment method integrated into the software.
- This will require us to do research on the third-party payment system they are currently using and determine if we are able to find a more suitable and secure one
  - There are two main risks associated with this: time and cost. It will take a good amount of time to research which third-party dependency works best with the company and can fit within their budget.
- We will have to evaluate if the security risk of going with a cheaper third-party payment system is worth it depending on what the client would prefer.

#### Continuous Maintenance:

- Clients need to maintain the app postproduction without needing high-level software development skills or having to hire their own third party to do the maintenance.
- Our development team has considered providing the client with workflow videos/tutorials on the usage of the application
- Our development team will follow the standard of coding practices that provide self-commenting code and a clean solution.

This task serves a high time and cost risk, but this is a risk we must be willing to take since our client does not have a development team to do maintenance on our solution. In turn, we will need to be very careful about developing maintainable code and putting in the required time and cost to develop a clean and easy-to-follow solution.

- Without a development team consistently monitoring the usage of this application, there could be several bugs that get through unit and QA testing that the users could experience that may not be easily fixable by an employee who doesn't have a strong development background.

### 3.6 Personnel Effort Requirements

#### Planning and Design Phase Tasks and Hours

	Create Schedule	Identify Deliverables	Git Set-Up	Environment Configuration	Figma Design: Bronze Plan	Figma Design: Silver Plan	Figma Design: Gold Plan	Total Hours
Charlene	2	1	2	4			6	15
Leah		1		4		6		11
Rachel		1		4		6		11
Samantha		1		4	8			13
Jason		1		4	8			13
Callie		1		4			6	11

#### Execution Phase Tasks and Hours

	Modified Requirement Collection	Modified Figma Design from Client	Backend Dev: Bronze	Frontend Dev: Bronze	Backend Dev: Bronze	Frontend Dev: Bronze	Backend Dev: Bronze	Frontend Dev: Bronze	Total
Charlene	2	3	2				20	15	42
Leah	2	3	2		20	15			42
Rachel	2	3	2		20	15			42
Samantha	2	3	20	15					40
Jason	2	3	20	15					40
Callie	2	3	2				20	15	42

#### Evaluation and Testing Phase Tasks and Hours

	Monitor Progress	Evaluate Progress	Unit Testing	Product Testing	SRS	Total
Charlene	3	4	5	5	10	27
Leah		2	5	5	10	22
Rachel		2	5	5	10	22
Samantha		2	5	5	10	22
Jason		2	5	5	10	22
Callie		2	5	5	10	22

**Planning and Design Phase Tasks:** This phase is where we will gather our initial requirements from the client, begin the designing process of the application, and set-up the development configurations required for the development phase. The clickable Figma prototypes will be the foundation of our development phase and will help us be more organized and create uniform pages and components.

**Execution & Modification Phase Tasks:** This phase will take the most amount of time throughout the duration of this project. This phase contains the front-end and back-end development of all plans desired by the client. Requirements will be configured and modified through communication with the client and the development process.

**Evaluation & Testing Phase Tasks:** This phase will take the least amount of time. Each team member will be expected to produce unit tests throughout the development phase of each page within the application. This way, unit and integration tests in this stage will not take very long since we are aiming to only need to write tests for components that we have missed. This stage will also contain reflection regarding each phase of the process to evaluate what could've been done better.

### 3.7 Other Resource Requirements

Identify the other resources aside from financial (such as parts and materials) required to complete the project.

- Client provides licensed images, and material / documents that will be used as content necessary for the implementation of the application.

- Client website, used for setting up one-on-one meetings

**Planning & Design:** This is where we will do our planning and design tasks before we begin our project. This phase will contain creating a clickable Figma prototype and setting up our development environment

**Execution & Modification:** This is our development phase. This is where we will utilize the Figma designs from the Planning & Design phase to develop the application. Each team member will be working on the frontend and backend for designated sections of the application

**Evaluation & Testing:** This is the reflection phase of our project's life cycle. Each team member will reflect on their contribution to the project and find our individual areas of improvement and strengths. This phase will also involve testing and presenting our client with our deliverables.



## 4 Design

### 4.1 Design Content

For our project, we will be creating a user-friendly cross-platform mobile application, so there will be design components throughout the whole application. Each page and its components will be designed to accommodate our client's needs and wants. These pages will each have a Figma prototype that will go through client approval before development to ensure all functional requirements are sufficiently met for each section of the application.

### 4.2 Design Complexity

1. **The design consists of multiple components/subsystems that each utilize distinct scientific, mathematical, or engineering principles**
  - a. **Front-end and back-end programming using React in order to make a working app on both the iOS and Android platforms**
    - i. **Uses a database to store user information**
    - ii. **Using Github to collaborate and organize working on code**
  - b. **Algorithm needed to establish order of questions in the personality determination quiz**
  - c. **Engineering aspects include creating an effective and efficient design for the screens of the app**
    - i. **Using Figma to establish the design**
2. **The problem scope contains multiple challenging requirements that match or exceed current solutions or industry standards.**
  - a. **The application will contain lots of data about potential users' personality types, but the information will have to be correctly mapped to the right user in an efficient and visually appealing manner.**
  - b. **The personality information mapped to each user will help describe who the user is and how they interact with others and themselves on a three-dimensional scale.**

### 4.3 Modern Engineering Tools

What modern engineering tools were used for this design? Their roles.

- 1) **Figma – Figma is an interface design tool that we have used and will continue to use to design the prototype of our application. During the development phase of our project lifecycle, our React components will be designed heavily based on our Figma prototypes that will primarily go through client approval.**
- 2) **Github – Github is used for group members to upload code and to work collaboratively. This is also used to keep track of the tasks needed to complete and the productivity of each member.**

### 4.4 Design Context

Area	Description	Examples
Public health, safety, and welfare	This app is designed to help boost mental health status as it helps the users understand how they interact with others while figuring out who they are in the process. Understanding oneself can vastly improve the welfare and lifestyle a person has.	<ul style="list-style-type: none"><li>- A family with children using the ColorWorks app to determine the personality of the family members to help better understand each other and promote good mental health</li><li>- Military member using the app to understand how their personality functions and find methods to help mitigate mental health problems</li></ul>
Global, cultural,	Our project's main goal is to help the community and improve as many people's	<ul style="list-style-type: none"><li>- The military community positively affected, due to providing improvements to mental health and</li></ul>

and social	mental health as possible. While the military and veterans may be a specific community in need of our app, our project has no limitations on who it aims to help/benefit.	<ul style="list-style-type: none"> <li>- reducing suicide rates.</li> <li>- Workplaces positively impacted since understanding the personalities of themselves and peers leads to better work productivity and satisfaction.</li> </ul>
Environmental	While not the main focus of our project. Through the ColorWorks app we aim to provide an easy to use, electronic and portable format for our users to obtain information. Thus, our app will reduce the client's use of paper format, which will provide a positive effect for the environment.	<ul style="list-style-type: none"> <li>- ColorWorks app provides an electronic format for their information. Thus, reduces the need for physical paper copies of the content.</li> </ul>
Economic	The ColorWorks app aims to provide an affordable product towards the target audience, so this app will mainly be used for young families. Also, military members will be able to use the app for free since the client is provided funding by the government to be used as a free resource for military members to help maintain good mental health.	<ul style="list-style-type: none"> <li>- <b>Product needs to remain affordable for target users</b></li> <li>- <b>Product should provide free but limited version to users who want to test out the application</b></li> <li>- <b>Product provides opportunity for economic advancement with 3 different membership plans</b></li> <li>- <b>Complex development creates risk for organization in terms of cost of maintainability</b></li> </ul>

#### 4.5 Prior Work/Solutions

There exists Myers-Briggs personality tests people can take which give a pretty detailed description of who individuals may be which is slightly similar to our product. However, our product will deliver a quiz that not only describes their personality type, but also reveals their underlying, secondary personality type, as well as their interaction style with the world on a scale from introverted to extroverted.

– If you are following previous work, cite that and discuss the **advantages/shortcomings**

→ Our project is the first app the client is developing for the ColorWorks company, therefore there is no previous work to follow.

→ PROS:

- ColorWorks app is focused on being easier to use since the main target audience is young families, thus children need to be able to use the app
- Provides three different levels for users that determine the number of features accessible, therefore giving more flexibility to the user.
- Referred military members are able to use the full functionality app for free
- Instead of using terms that can be hard to understand, the use of colors to determine personality type may provide a more interactive and fun way for users to learn.

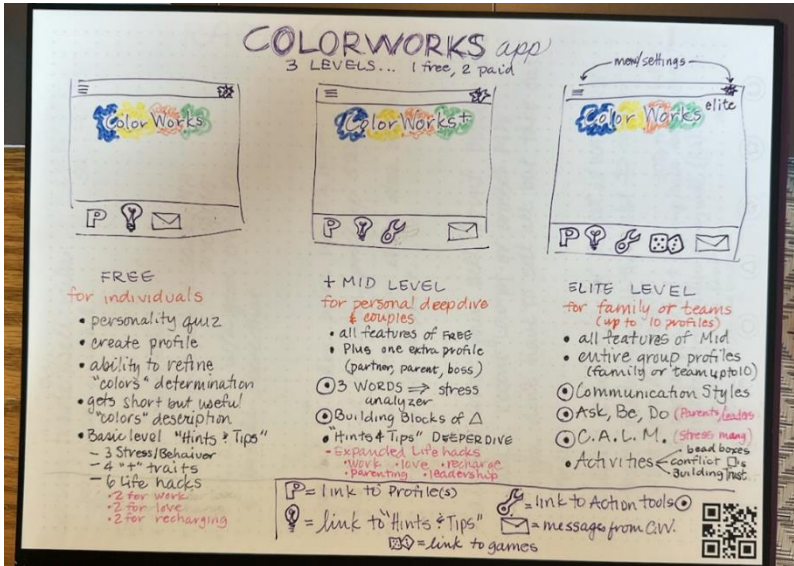
CONS:

- Not developed enough yet for a global audience, so the app is mainly used for users in the US.
  - Limitations of company employees to provide in-person or on the phone help for users if needed.
- For our project, we will be developing the app using React for the iOS and Android platforms. We will not be conducting any research for the app since the information and content is provided to us by the client.

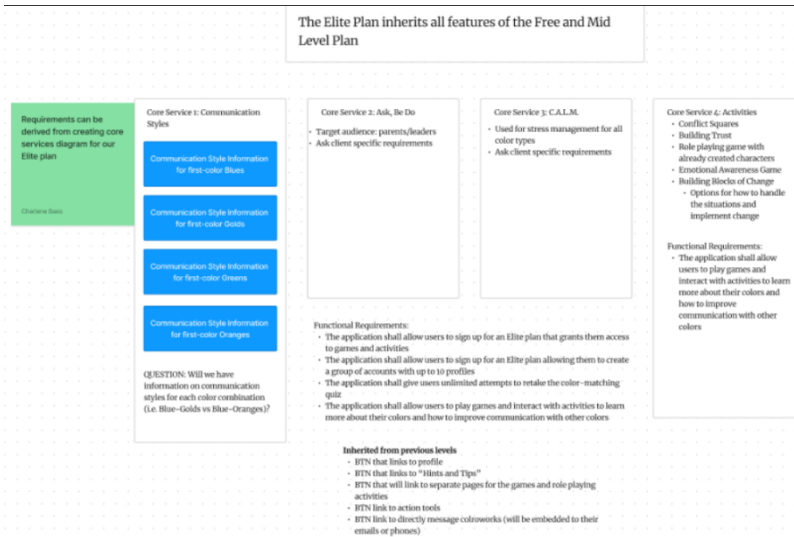
#### 4.6 Design Decisions

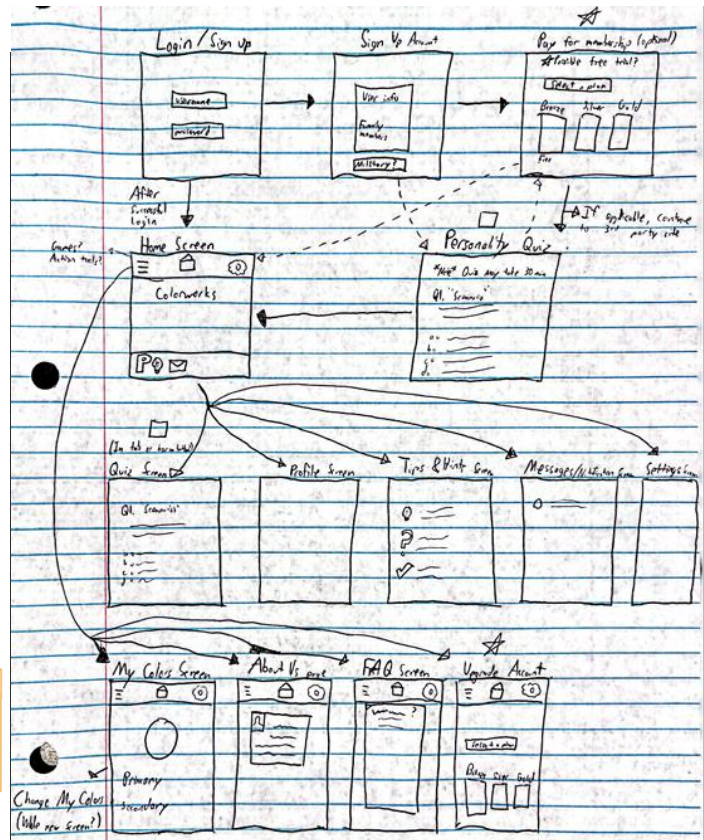
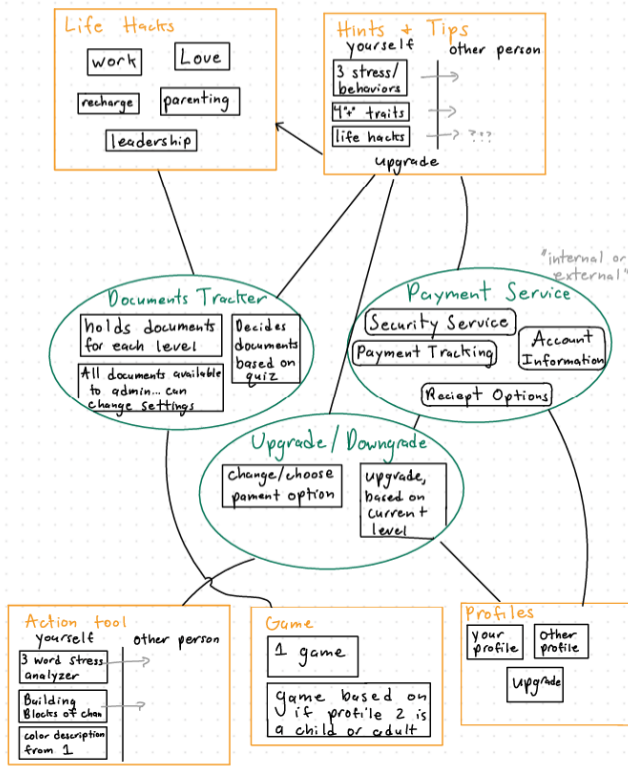
- We are using Figma to document our front-end design because it is user friendly, free, and allows the team to add their work to a shared folder
- We have chosen to use react for our project that way it will be both apple and android friendly; the code can also eventually be reused for the website in the future. This will also give the whole team good practice in using react which is important going into the workplace since it is becoming so prevalent.

Proposed Design 4.7.1 Design 0 (Initial Design provided by client)



Initial Requirements and Core Functionality Descriptions by Plan





Our initial designs are as follows through the teams Figma pages. Each team member was tasked with the creation of a few basic pages for the app before we met with the client on October 22<sup>nd</sup>. We each created an opening page, the beginning of the quiz (maybe even example pages) and the home page. With the addition of each team member creating a few other pages on their own such as the payment options or logins. Thus far the client is satisfied with our designs and how they fill the role of the app's functional requirements.



## Functionality

We initially made diagrams to depict the requirements for the bronze, silver, and gold packages. We worked in teams of two and then confirmed the diagrams were following the correct functional requirements according to the clients. During this meeting we also received confirmation from the client of what the quiz will roughly look like and how it will work. Through the meeting we developed a systematic tree for the basics of how the quiz functionality will work. Below are images of the team's diagrams and the systematic tree developed for the quiz. Then after meeting with the clients and approving bronze, silver, and gold packages the team then moved onto creating the first Figma pages.

### 4.7.2 Design 1 (Design Iteration)

After meeting with our client on Oct 22<sup>nd</sup> we took extensive notes on what might need to be changed from our initial Figma designs. These adjustments will be implemented in the next week based off the notes we took from the client. Here are some bullet points of how/what we are going to adjust about the current Figma designs.

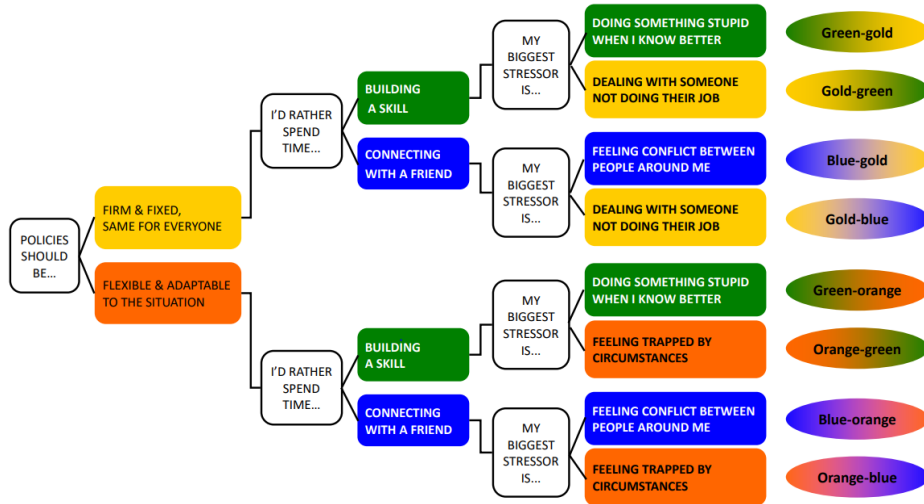
#### Client Information about updating designs:

##### Page layout:

1. Have a Take the quiz button
2. Do you want to take the quiz question, talk about how long the quiz should be
3. Information about the quiz, what it is about, the three personalities and how you should put your mindset for it all.
4. Have an example quiz question before the quiz starts
5. TAKE THE QUIZ
6. Have an answer about what the bars and which personality type percentage you are (Have the answer to the questions – maybe)
7. THEN YOU GO TO THE SIGN-UP PAGE
8. CONTINUE PLANNING

##### Quiz Question Trees

- We want to make sure that we can default all the questions but make sure the quizzes can be changed
- Each branch of the tree will have around 4 questions so in total there will be around 25 to 30 questions
- For the questions we will have it either be yes or no, agree or disagree
  - o Two options for the questions
- Have the take the quiz option in the beginning -> have it bold and solid
- We will have a bar graph that shows how many you answered green, orange, blue, and yellow
  - o You will be able to see how much you answer for each question, this can help see how much you score for each color
  - o When you are taking the quiz, you will show that you are extroverted or introverted. This will be the faded darker to lighter bar that we saw presented earlier.
- In our description we need to state that we are looking at all three of our personalities which is unique about this quiz



## Military Options

- Would have a code that is the way that they have to login, they will have the 10 codes or a QR code on the page, it is okay if the code changes each time
- Register as a military member instead of just a regular user as military, have them sign up different at the start

## Client comments on design

- Main color: white background
- Second color pale grey and purple
- Navigation
  - o We want the bottom to be for the navigation menu, this will be the major quick clicks that we want to navigate towards
  - o And then Ham for all resources and links
- Like Options for regular users and military user options when registering for the account
  - o For the create account/login screen have there be a New User option and then do a take the quiz as normal user and take the quiz for a military user
- For the quiz you should not be able to see the colors when you are taking the quiz, when you are done taking the quiz you would be able to see what the color answers are related to
  - o We do not want people to pigeonhole people into an answer
  - o Selected answer on quiz shows a fun color like purple or something similar
    - Have come type of like confetti pop after you are done taking the quiz
- We want lots of fluff

## Home Page

- Your profiles
  - o On the home page for the profile, have a fade bar for your profile where it states what color each person is and have it been the actual persons profile be its own fade bar
    - Like the fad boxes for each information
    - On the profile have it be an introvert/extrovert profile that will be on the page
  - o Links to specific information that is most important that is needed
  - o Have a scrolling section where you can go to information
  - o For the Home page under each profile want each person to pick an icon

## Help Page

- Have this be under the HAM menu, this will be a what do these colors mean and what each of the symbols on

the page understand

- This will kind of be like a “key” for the app

Questions:

- How do we want to show the color answers to the quiz?
- Progress bar or countdown, for number of questions
  - o Bubbles filling up across the top, progress pie chart, rainbows getting filled in
    - Have it been fun and inviting to look at not just a boring number
- When you take the quiz does the questions do we want a back button (move on automatically then have a back button if needed) or continue/next button or lock in/confirm function?
- For the questions we want to make them random each time, we need to figure out the equation for how we want the questions to be ordered – there is an equation for each person?

## 4.8 Technology Considerations

Highlight the strengths, weakness, and trade-offs made in technology available.

Discuss possible solutions and design alternatives

**One key strength of the technology we are using is that React is compatible with both Apple and Android products so it will prove for a smoother integration considering our application will have users, potentially even from the same family, accessing the app from different smartphone device platforms (Android vs Apple).**

**A potential weakness for using the React technology though is that our team is not quite as familiar with React development and translating initial design from Figma illustrations to the React platform smoothly. However, there is a pretty straightforward solution to this problem, that being to learn and familiarize with the React platform to integrate things properly into our application.**

## 4.9 Design Analysis

- Did your proposed design from 4.7 work? Why or why not?
  - ➔ Referring to the proposed design images, the client liked various features and designs from each example. Therefore, based on the recommendations, our group will form a final design that implements these picked features. Overall, we think that our proposed designs were successful since it allowed the client to see a variety of options.
- What are your observations, thoughts, and ideas to modify or iterate further over the design?
  - ➔ The group observed a variety of things to implement based on feedback from the client. Refer to the meeting notes below for details on these ideas.

Page layout:

1. Have a Take the quiz button
2. Do you want to take the quiz question, talk about how long the quiz should be
3. Information about the quiz, what it is about, the three personalities and how you should put your mindset for it all.
4. Have an example quiz question before the quiz starts
5. TAKE THE QUIZ
6. Have an answer about what the bars and which personality type percentage you are (Have the answer to the questions – maybe)
7. THEN YOU GO TO THE SIGN-UP PAGE
8. CONTINUE PLANNING



## Client comments on design

- Main color: white background
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  - We want the bottom to be for the navigation menu, this will be the major quick clicks that we want to navigate towards
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  - For the create account/login screen have there be a New User option and then do a take the quiz as normal user and take the quiz for a military user
- For the quiz you should not be able to see the colors when you are taking the quiz, when you are done taking the quiz you would be able to see what the color answers are related to
  - We do not want people to pigeonhole people into an answer
  - Selected answer on quiz shows a fun color like purple or something similar
    - Have come type of like confetti pop after you are done taking the quiz
- We want lots of fluff

## 4.10 Final Prototype

Note that we are aware that requirements and the look of our application will change throughout the course of the development and implementation process. This is the design we currently have labeled as our final design prototype.

This can be seen at the end of this document, in the appendix.

# 5 Testing

## 5.1 Unit Testing

The units being tested for the app will include generating mock input elements such as fake users of the app. With these mock users the app will test functionality of the account system. We will create a number of users for each level of subscription for the app (bronze, silver, gold) in order to test the functionality of each level.

This will be done through the back-end platform of React, and will essentially generate some mock users of the app. Another tool we can use for a more automated approach will most likely be jest. We are still deliberating which unit testing tool we are all most conformable with, however. Jest is an easy-to-use tool. There is little setup required, and it is available in Node Package Manager (NPM). Jest tests can be written by anyone who is familiar with JavaScript. Some of the best features of jest that will be applicable to our testing phase include availability on GitHub/open-source, parallel testing is supported, it is fast, and detailed documentation is provided.

## 5.2 Interface Testing

The interfaces in our design are being created through Figma. We as each individual group member are going through

and designing our own individual Figma pages and are sharing them as a group. As we have 5 group members, we have 5 assorted designs of each individual page. We are comparing these pages and flow of what the future pages will look like. We will have our clients then come in to vote on which design they like better. Next, we will finalize the design based on the client's request. Once we have the design complete and functioning, we will go through a list of the client's users and set up surveys to figure out how to improve the interface design and functionality.

Eventually the team will be setting up and using Postman, a common API testing tool. This tool can be used to run functionality, performance, security, and integrity testing using API requests. All of these are the type of testing that comes under the interface of an application. This tool is free, and we all have at least some experiences using it. These two being the main factors why we chose Postman over other API testing tools.

### 5.3 Integration Testing

Our critical integration paths will consist of our user workflows. There are multiple paths that a user can choose to interact with all components of our app, but we will prioritize creating integration tests for tasks within the Basic/Bronze plan, since those workflows will need to work consistently throughout all the other paid plans.

These user workflows are integration tests since they span over multiple pages (units) of our application. Ensuring that all units work in a cohesive manner means that it will be easy for our users to complete their desired tasks. Automated tests will be created for these workflows to ensure that users can complete tasks as expected, without any problems.

**User Workflow #1:** As a new user, I want to take the introductory quiz to find out my colors and interaction type.

1. User views the quiz warning page and can select the “Go Back” or “Take Quiz” button
  - a. “Go Back” will take the user back to the launch page
  - b. “Take Quiz” will take the user to the first question page
2. User has access to all quiz questions on their indicated color path
  - a. Tests should verify that no matter the order of the questions, all questions should appear for the user at least once while taking the quiz
  - b. If the user still has questions left, clicking on an answer should take them to the next page of the quiz
  - c. If the user has answered the last question, clicking on an answer should take them to the results page of the quiz
3. The results page should display the correct color and interaction style for the user

User Workflow #1 can be tested by using multiple “fake users.” We can hardcode the input values we want for the quiz and verify that the user gets a specific result.

*The following are examples of critical user workflows that we have determined for our application:*

**User Workflow #2:** As a new user, I would like to create a new account

**User Workflow #3:** As a user with a Bronze plan, I would like to upgrade my account to a Silver plan.

**User Workflow #4:** As a user with an upgraded plan, I would like to cancel my membership

- *Note that a user cancelling their membership should remove the features that they had access to with the Silver or Gold plans. Profiles will also be deleted in this process if there are more than the amount allowed in the Basic plan.*

**User Workflow #5:** As a general user, I would like to be able to access information about my color and interaction style

**User Workflow #6:** As a user with a Silver or Gold plan, I would like to add another profile to my existing account

### 5.4 System Testing

The system testing for this project will include the complete testing of the whole application. We will be using test users and having them run through the process of creating an account, taking the personality quiz, as well as interacting with

all the features requested by our client. We will have diverse types of users testing the application as well, single users, couples, and families. While the test users are using the application our team will be monitoring our code to ensure that all the information and configurations are working and being stored properly. We also will have users test the various levels that the application will be offering, so that we know the third-party payment portion of the application is fully functional. By doing our system test this way we will be able to ensure that every configuration of the application complies with the clients' requirements and works seamlessly.

## 5.5 Regression Testing

We ensure that any new additions do not break the old functionality by having existing features in which its functionality is verified. The development will ensure that new features added will build off from the logic of the base code and will branch from there. The implemented critical features we need to ensure do not break are the abilities for the user to login to their profile, the ability for the app to recognize the level of subscription the user has, and the user's ability to make payments. Also, this will be driven by requirements.

## 5.6 Acceptance Testing

To thoroughly perform acceptance testing, we should make sure that our requirements are clear on each of our GitHub tasks. When a task is being code reviewed and is ready to be pushed to the master branch, both the developer and the code reviewer of the ticket will participate in Acceptance Testing.

*Here is an example of how our acceptance testing would work:*

GitHub Task: Create a Login and Create Account Page where the user can login or create a new account using their email.

Acceptance Criteria for this Task:

- A user cannot use an email that has already been used to create an account
- A user can login only if their username and password are correct
- A user can navigate to the Create Account Page from the Login page
- A user's password must contain one capital letter, one number, and must be at least 8 characters long
- After creating a new account, the user will be able to login using their credentials
- If the username that a user inputs into the Create Account Page already exists, they will have to choose a new one
- If the username a user inputs into the Login Page does not exist, they will be alerted to go to the Create Account page, as their username credentials were not found in the database.

Each Acceptance Criteria must be met, as tested by the main developer and the code reviewer, for the code to be pushed to the master branch.

We will schedule demo-days with our clients to show them what functionalities have been newly implemented and see if they approve of the workflows and the look of the application. If they require any changes to be made, those changes will be implemented by the next demo for approval.

## 5.7 Security Testing (if applicable)

The main reason we need to implement security testing is to uphold the principles of confidentiality, integrity, and availability to our clients.

To do this we will ensure any confidential information, especially payment information handled by a 3<sup>rd</sup> party application, will be protected securely for our clients. Another security risk to be thoroughly tested is being able to switch between user profiles to keep each profile private from dissociated from another. For example, we need to prevent a child from logging on to their parent’s account without being prompted to enter a password, so that they do not accidentally tamper with sensitive data or settings. Lastly, our accounts will be thoroughly tested so that clients will not be able to access utilities provided exclusively for the tiers above their current package plan. For example, if you only have a bronze tier level, you should not be granted silver tier privileges, even if you used to have a silver tier membership.

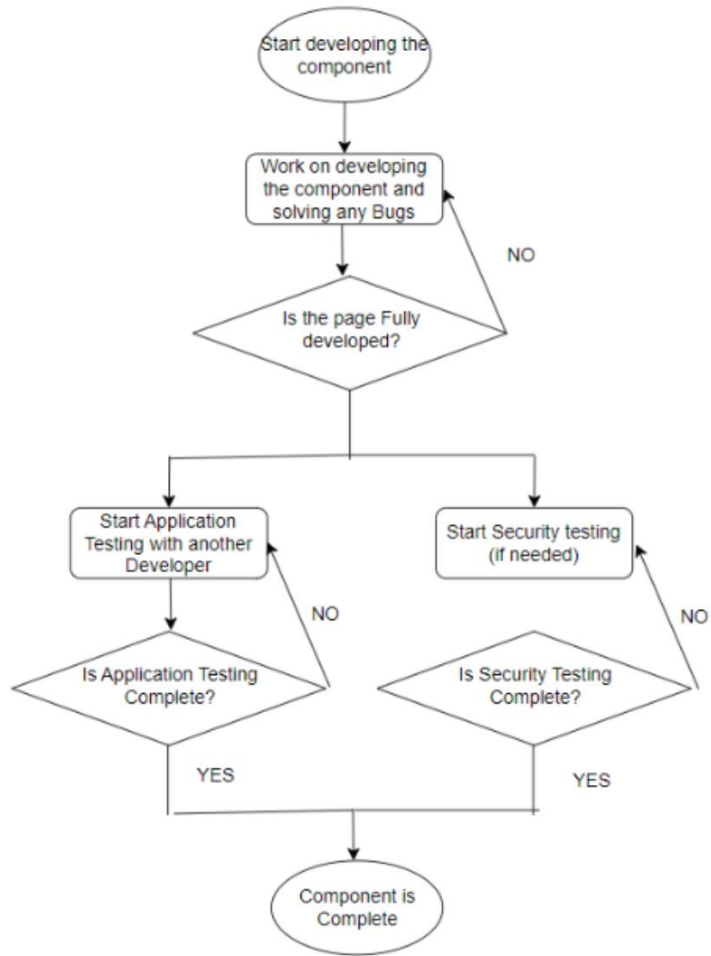
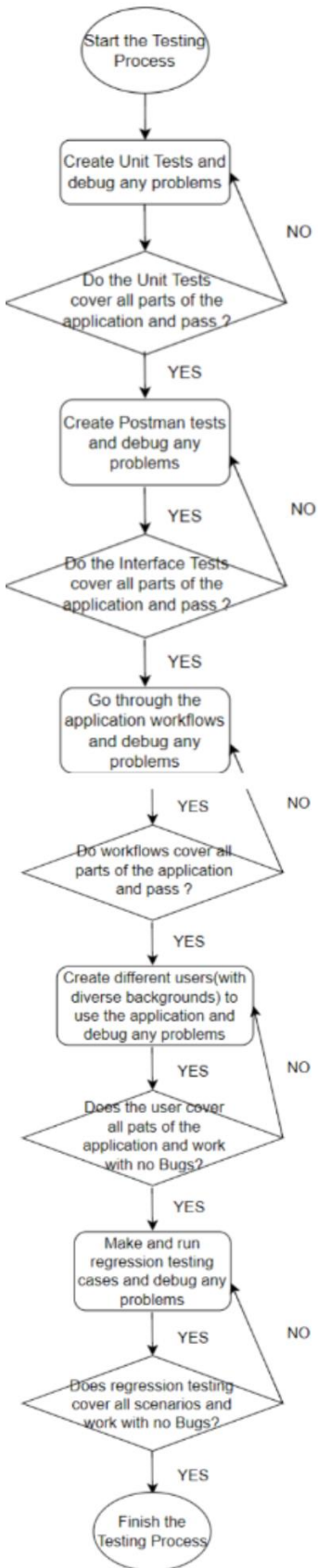
## 5.8 Results

The results of our testing will mean that after all forms of testing we will have a fully functioning application, with no problems with the functionality or design of the application. We will ensure compliance with the requirements of our application by consulting all our instructions and layout given by our clients are complete, making sure each step that they requested is complete. We will also make sure that all 7 types of testing cover all areas of our application and pass all areas of expertise.

Below is the Google form we will be using for user interface testing. It is going to be split up into multiple categories of discussion on different units of the app. Some of the units will be broken up into overall usability, quiz clarity, login procedure, app navigation, account information, ease of use, etc.

The image shows a Google Form titled "Colorworks App Feedback". At the top, it says "Colorworks App Feedback" with a folder icon, a star icon, and "All changes saved in Drive". There are also icons for a smiley face and a person. Below the title, there are tabs for "Questions", "Responses", and "Settings". The main content of the form includes a thank you message, a request for feedback, and two Likert scale questions. The first question is "Was the app confusing to navigate \*" with a 5-point scale from "Very easy" to "Very confusing". The second question is "Did the sidebar contain all the correct options for successful navigation \*" with a 5-point scale from 1 to 5.

Below is the flow chart we will be using for all testing. This will be broken up into two types of testing, there will be the testing that will happen for each individual page and the testing that will occur once our application is fully developed. There is also a link to this flow chart here: <https://drive.google.com/file/d/1yQRbhBIZDiZTCkzZmNp-by95UZTd7x/view?usp=sharing>.



## 6 Implementation

All members of our team have heavy experience with front-end implementation, but lack the same skill set in backend implementation. This is a weakness as a team that we will have to overcome throughout the duration of the second semester. We have decided as a team that all 6 members will take part in the implementation of the front-end and the back-end components of the application, instead of splitting up the team evenly between the two.

### 6.1 Frontend Implementation

Our preliminary development plans for frontend development are to utilize React Native. React makes the implementation of components simple and easy, which aligns with our final design components. Most of us have experience with JavaScript and some of us have prior experience with React Native from our internship experiences.

We will be using Visual Studio Code for our IDE for the front-end implementation of our application.

### 6.2 Backend Implementation

Our preliminary development plans for backend development are to either utilize Node.js, Springboot, or Firebase.

As of right now, we have the most experience with Node.js and Springboot, but it also would make sense to implement this application using Firebase. Firebase will provide us with user authentication without having to store important user information such as passwords within our application. This will help us keep the information of ColorWorks clients secure and private. Of the three of our options, Firebase is the easiest to configure, and with a team of six minimally experienced backend developers, it will be more time-effective to utilize Firebase.

## 7 Professionalism

### 7.1 Areas of Responsibility

<u>Area of Responsibility</u>	<u>Definition</u>	<u>NSPE Canon</u>	<u>IEEE Code of Ethics</u>	<u>Difference from NSPE</u>
Work Competence	Perform work of high quality, integrity, timeliness, and professional competence.	Perform services only in areas of their competence; Avoid deceptive acts.	To maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations.	The difference from the NSPE Canon is that the NSPE Canon only talks about the user's competence and to avoid deceptive tasks while the IEEE states that in addition to adding training and lawful descriptions.

Financial Responsibility	Deliver products and services of realization value and at reasonable costs.	Act for each employer or client as faithful agents or trustees.	To avoid unlawful conduct in professional activities, and to reject bribery in all its forms.	NSPE talks about how each employer or client should be faithful financially and IEEE talks about unlawful conduct with the professional and specifically talks against bribery in the workplace.
Communication Honesty	Report work truthfully, without deception, and understand to stakeholders.	Issue public statements only in an objective and truthful manner; Avoid deceptive acts.	To avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist.	NSPE talks specifically about public statements while IEEE talks about personal conflicts within the project.
Health, Safety, Well-Being	Minimize risks to safety, health, and wellbeing of stakeholders.	Hold Paramount the safety, health, and welfare of the public.	To hold paramount, the safety, health, and welfare of the public to protect the privacy of others.	Both the NSPE and IEEE talk about the same Health, Safety, Well-Being, but IEEE adds that we need to talk about these issues to protect people's privacy.
Property Ownership	Respect property, ideas, and information of clients and others.	Act for each employer or client as faithful agents or trustees.	To seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, to be honest, and realistic in stating claims or estimates based on available data, and to credit properly the contributions of others.	NSPE talks about being faithful within the employer client relationship while IEEE talks about each individual employer property ownership and to make sure that credit is given where it is needed.

Sustainability	Product environment and natural resources locally and globally.	N/A	To strive to comply with ethical design and sustainable development practices and disclose promptly factors that might endanger the environment.	NSPE did not give any description for sustainability.
Social Responsibility	Produce products and services that benefit society and communities.	Conduct themselves honorably, reasonably, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.	Disclose promptly factors that might endanger the public	NSPE talks about social responsibility within the overall idea of the Engineering profession while IEEE talks about the social responsibility of making sure that the public is safe.

## 7.2 Project Specific Professional Responsibility Area

<u>Area of Responsibility</u>	<u>Does it Apply to our Project?</u>	<u>How Well is the Team Performing?</u>
Work Competence	Yes, this area applies to our project, we need to ensure that our production is high quality, provides the best user experience possible, and is a professionally competent representation of our client's company.	High
Financial Responsibility	Yes, this area applies to our project, the overall cost of our project is low, but we need to ensure that we are not wasting our clients time or funds that we have been given.	High
Communication Honesty	Yes, this area applies to our project because our team needs to ensure that we are using honest and consistent communication with our client in regard to our project status	High



	and the specified deliverables.	
Health, Safety, Well-Being	Yes, this area applies to our project as a mental health app because, we need to ensure that information is correct and easily accessible due to its importance in the mental well-being of our applications users.	High / Medium
Property Ownership	Yes, this area applies to our project, we need to respect the ideas, information, and tools that our clients used to build their company.	High
Sustainability	N/A	N/A
Social Responsibility	Yes, this area applies to our project because the purpose of the application is to provide personality based coaching and mental health information to users.	High

### 7.3 Most Applicable Professional Responsibility Area

The most applicable professional responsibility area regarding our project is Health, Safety, and Well-being. Being that this is a mental health app that specializes in relationships it is imperative that our app takes high regard when it comes to ensure the health, safety, and well-being of our users. This means ensuring that our applications have easily accessible information so that users in crisis can access the information they need quickly, and that the information is accurate / helpful.

## 8 Closing Material

### 8.1 Discussion

At the beginning of the semester, our team’s goals outlined in our Team Contract were to:

- 1) Get pre-work and organization done for the ColorWorks application before next semester during execution,
- 2) Create a Figma for each page we want to design next semester
- 3) Have everyone make a “hello world” trying out the new IOS development tools
- 4) Each team member can contribute to backend work and ideas
- 5) Back-end tables and organization completed before the end of the semester

Our strategies for planning and assigning individual and teamwork:

- 1) Individual assignments decided during the Sunday meeting

- 2) Put issues into GitLab and update any tasks to the correct status
- 3) Hold each other accountable during meeting
- 4) Try to stay on task for as long as possible

Overall, our team was able to implement most of these strategies and executed our goals. This semester, we were able to establish a solid foundation for the organization of the ColorWorks app by creating a Figma design for each page and made sure to confirm these designs with our client to assure their satisfaction. We came up with diving the app into three tiers (bronze, silver, and gold) and will be assigning two team members for each level to work on development for both the frontend and backend. On the other hand, since this semester was focused on design, we didn't get to explore back-end options as much as we would have liked but will make sure to start this for the next semester.

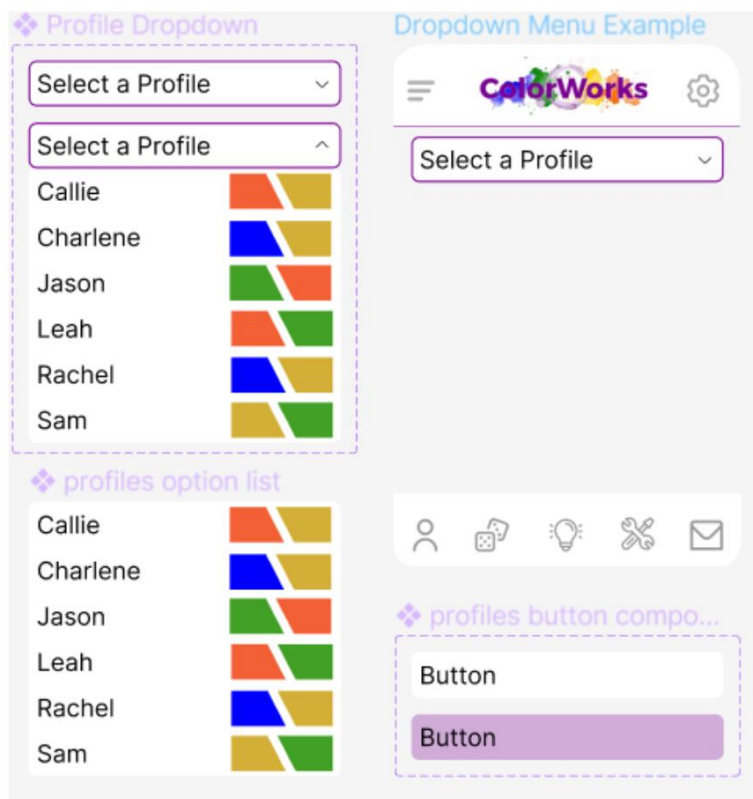
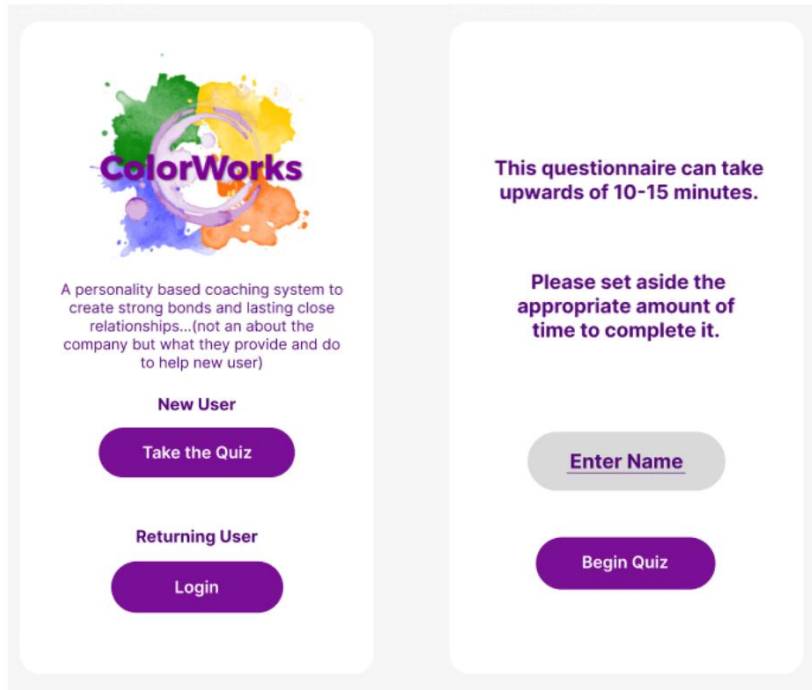
For our strategies for planning and assigning work, our team developed a good working method that allowed us to get our work done in a timely manner. We would have meetings almost every Sunday that involved meeting with the client or getting work done and dividing the work amongst ourselves. We held each other accountable during meetings and would stay on task for the majority of our sessions. Since we weren't coding this first semester, we didn't have much use for GitLab, but will be using it this upcoming semester.

## 8.2 Conclusion

After multiple meetings throughout the semester with our client the team was able to complete a fully functioning prototype of the front-end design for the colorworks app. This includes diagrams and figma design pages of the different levels and variations of the app depending on the user and payment plan. We were also able to preplan our next steps for the second semester of the project, gained access to pro-level creation tools for programming the app, and began research into backend creation and development. The final product is meant to be a fully functioning app that will consist of a 3 tier payment system. Tier 1: free for individuals, create a profile, can take quiz and store their information, short but useful color descriptions, eventually prompt for paying for tier two, basic level hints and tips (3 stress behaviors, 4 traits, 6 life hacks for work relationships and family). Tier 2: All features of the free app, extra profile, 3-word analyzer, building blocks of triangle, hints and tips (expanded life hacks, work, love, recharge, parenting, leadership). Tier 3: For family or teams (up to 10 profiles), all features of tier 2, entire group profiles (family or team up to 10), communication styles, Ask, Be, Do, CALM, Activities – bead boxes, conflict square's building trust. When we all return from break the team will dive into backend development. Our first milestone being the creation of a basic level bronze account that can login/logout, save quiz information, and can pull the quiz information from the backend to tailor the app to your specific color type. We were originally restrained by one of our clients having surgery and the recovery could have lasted a very long time, however it went quickly and we were still able to meet with the client and finish all of our first semester goals on time. Next semester we will need to meet with our clients less than this first semester which means our group meetings will be solely focused on coding and working out errors together. Our team dynamic and efficiency were stable and successful this semester so we will carry the same tactics used in first semester into second semester in order to complete the project on time.

## 8.4 Appendices

Final Design Prototype:



**ColorWorks**

Please select the account whose color you need to change

If unsatisfied with your current colors you may retake the quiz or manually change your colors

**Begin Quiz**      **Manually change colors**

If you have taken a similar quiz to ours before such as Myers Briggs here is a conversion chart

**Myers Briggs Conversion chart**

	Extroverted Gold Blue <b>ESFJ</b>
	Introverted Gold Blue <b>ISFJ</b>
	Extroverted Gold Green <b>ESTJ</b>
	Introverted Gold Green <b>ISTJ</b>
	Extroverted Orange Blue <b>ESFP</b>
	Introverted Orange Blue <b>ISFP</b>
	Extroverted Orange Green <b>ESTP</b>
	Introverted Orange Green <b>ISTP</b>
	Extroverted Green Gold <b>ENTJ</b>
	Introverted Green Gold <b>INTJ</b>
	Extroverted Green Orange <b>ENTP</b>
	Introverted Green Orange <b>INTP</b>
	Extroverted Blue Gold <b>ENFJ</b>
	Introverted Blue Gold <b>INFJ</b>
	Extroverted Blue Orange <b>ENFP</b>
	Introverted Blue Orange <b>INFP</b>

**ColorWorks**

You will need to select your first color, second color, and interaction style then confirm the changes

**Select your first color**      **Select your second color**

**Select your interaction style**

**Extrovert**      **Introvert**

Are you sure you would like to officially change your color for this account

**Back**      **Confirm**

**ColorWorks**

You will need to select your first color, second color, and interaction style then confirm the changes

**Select your first color**      **Select your second color**

**Select your interaction style**

**Extrovert**      **Introvert**

Are you sure you would like to officially change your color for this account

**Back**      **Confirm**

**ColorWorks**

You will need to select your first color, second color, and interaction style then confirm the changes

**Select your first color**      **Select your second color**

**Select your interaction style**

**Extrovert**      **Introvert**

Are you sure you would like to officially change your color for this account

**ColorWorks**

You will need to select your first color, second color, and interaction style then confirm the changes

**Select your first color**      **Select your second color**

**Select your interaction style**

**Extrovert**      **Introvert**

Are you sure you would like to officially change your color for this account

**ColorWorks**

You will need to select your first color, second color, and interaction style then confirm the changes

**Select your first color**      **Select your second color**

**Select your interaction style**

**Extrovert**      **Introvert**

Are you sure you would like to officially change your color for this account

**Back**      **Confirm**

**ColorWorks**

You will need to select your first color, second color, and interaction style then confirm the changes

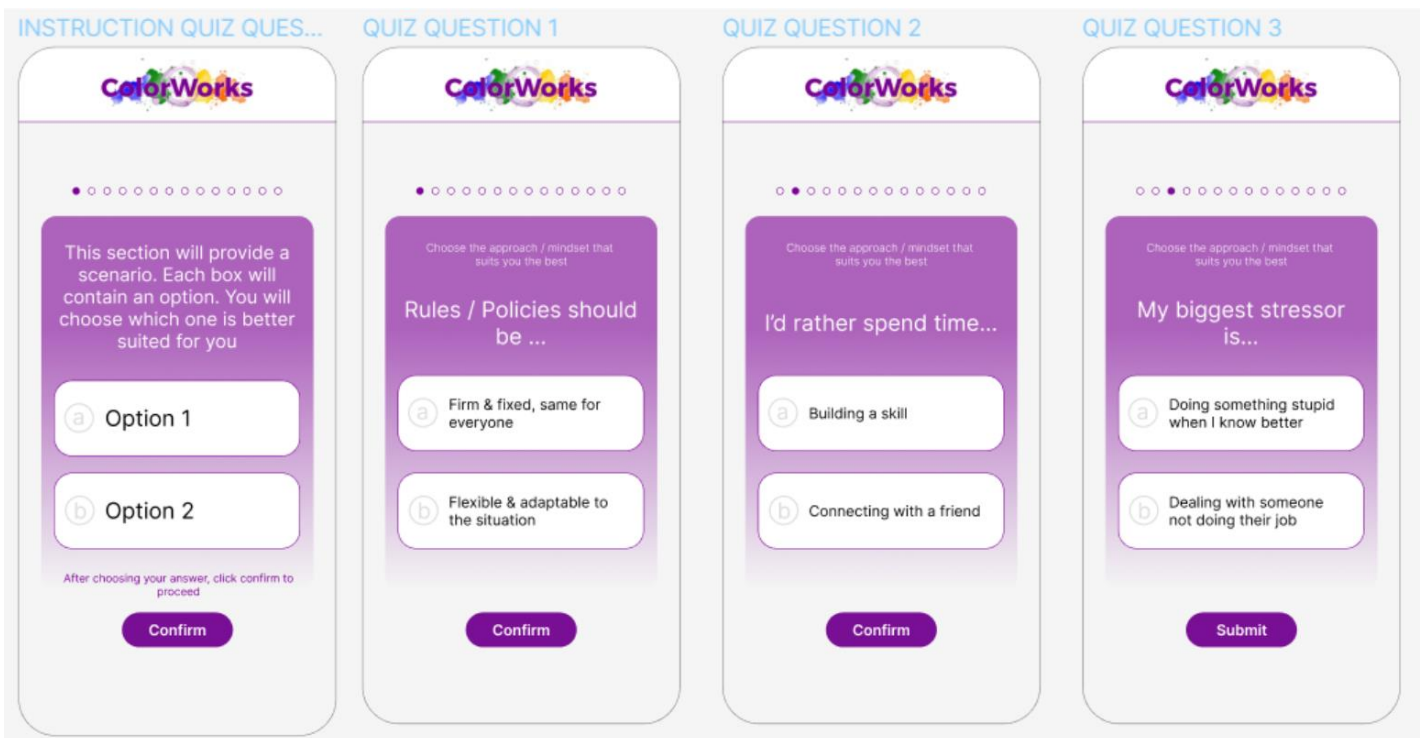
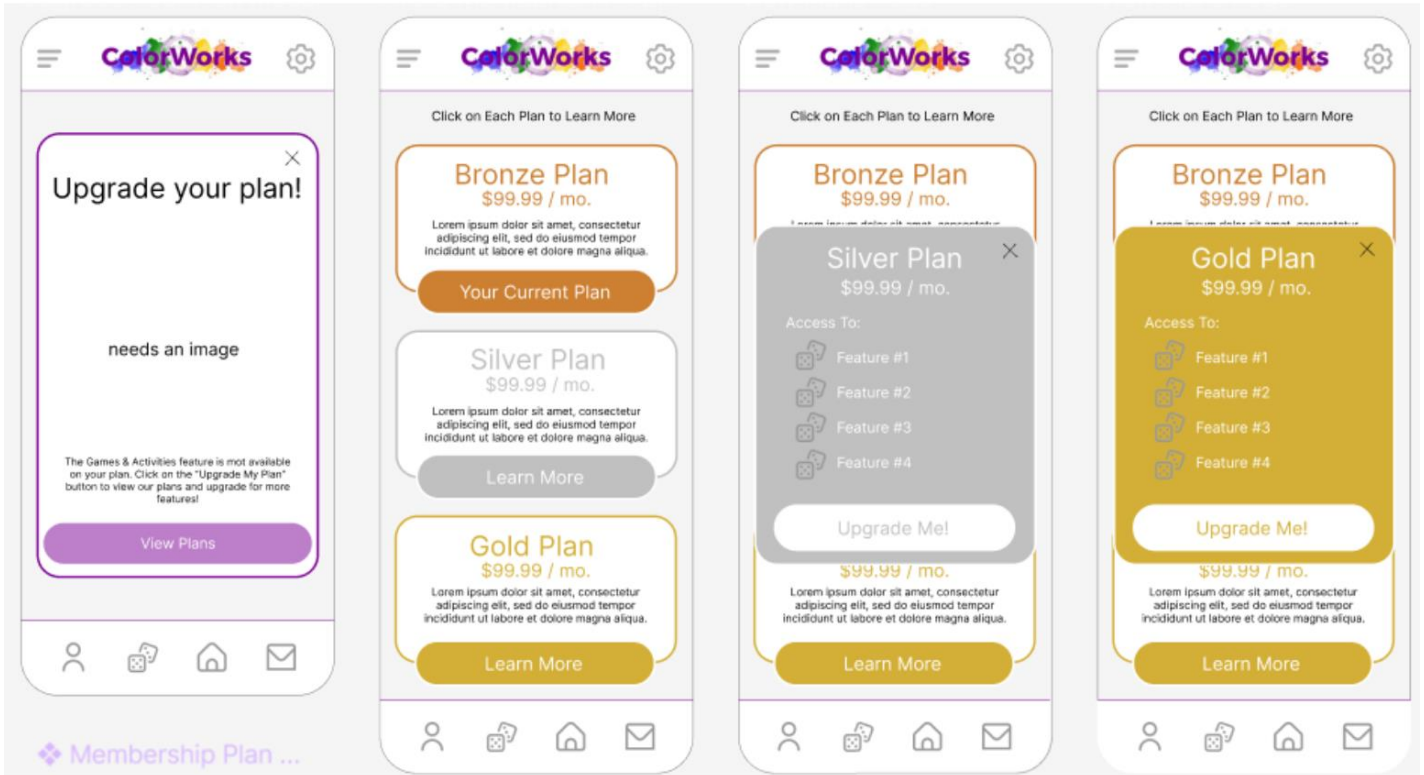
**Select your first color**      **Select your second color**

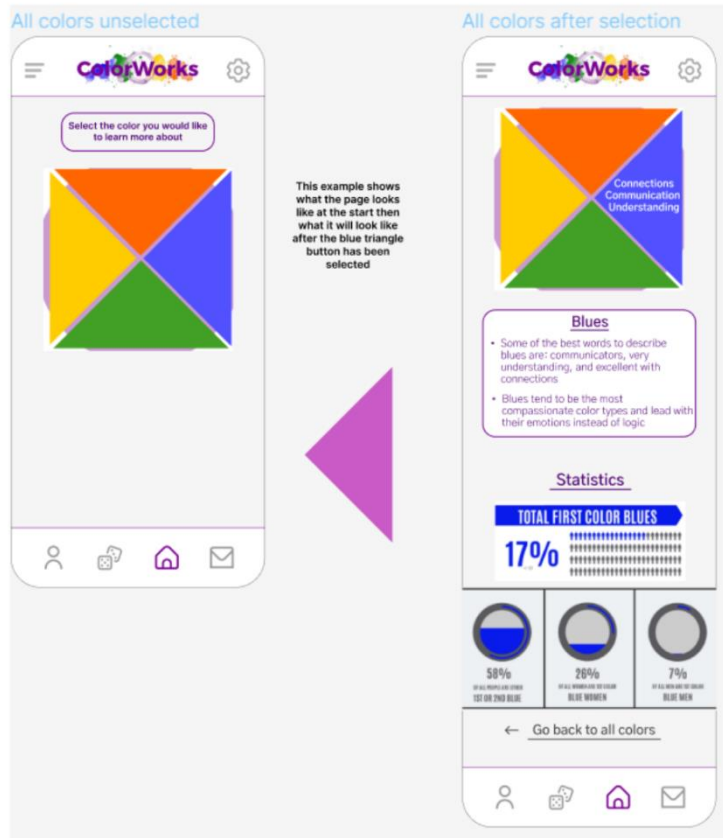
**Select your interaction style**

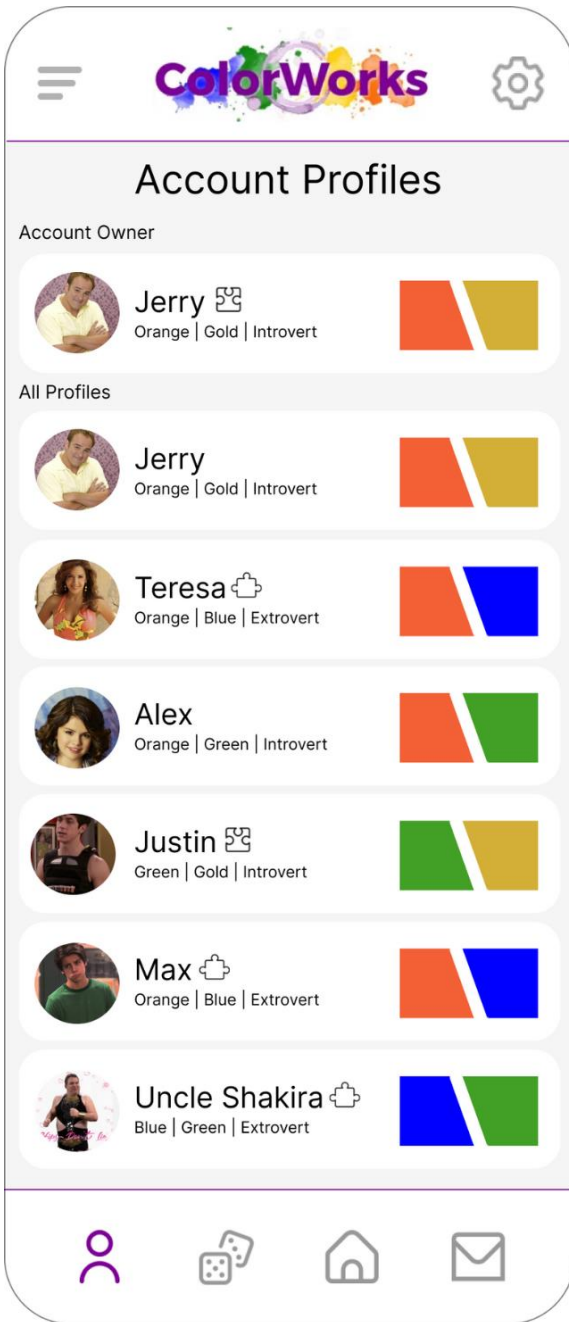
**Extrovert**      **Introvert**











Are you sure you would like to officially change your color for this account

**Back**      **Confirm**

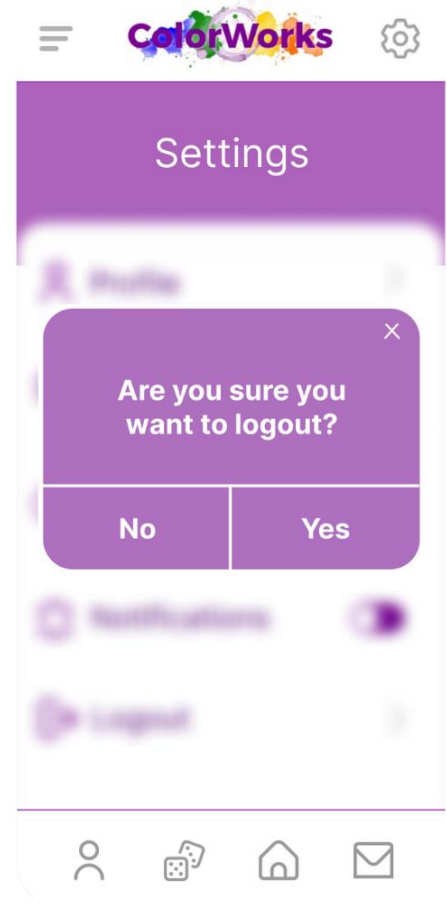
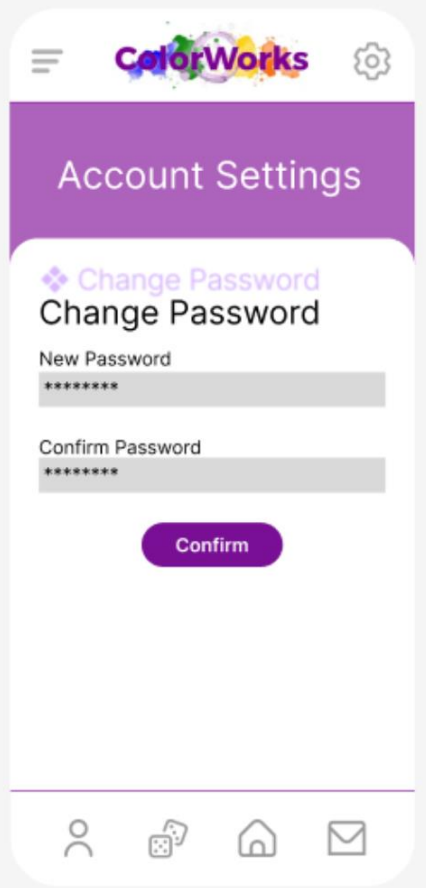
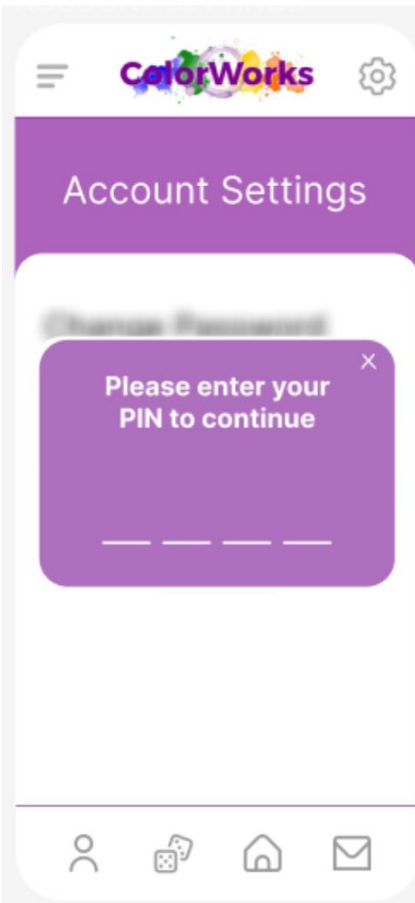
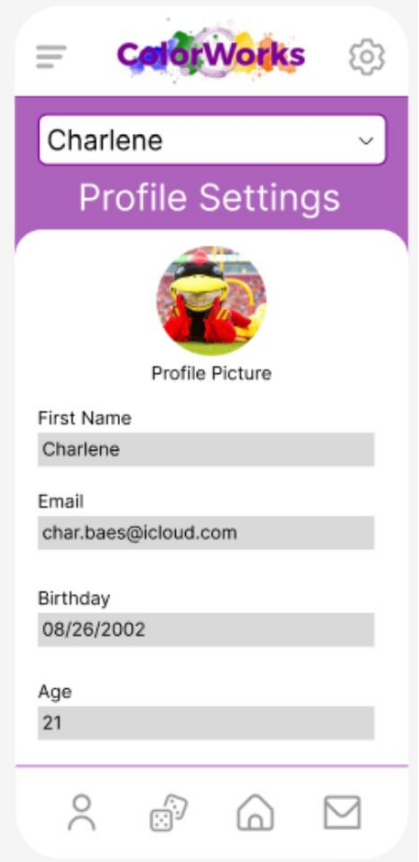
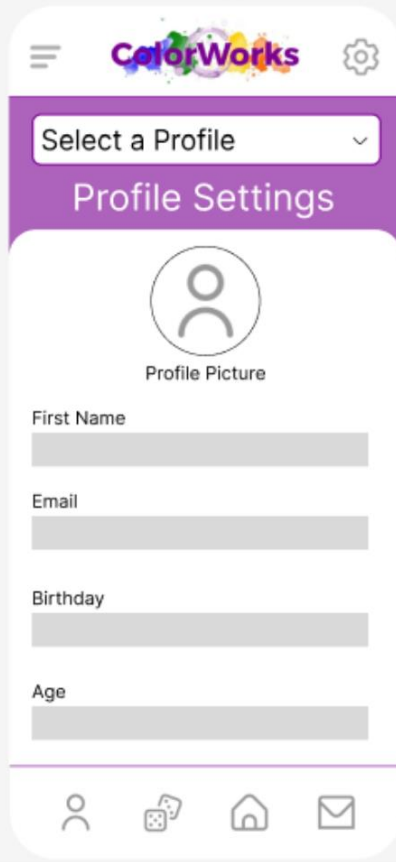
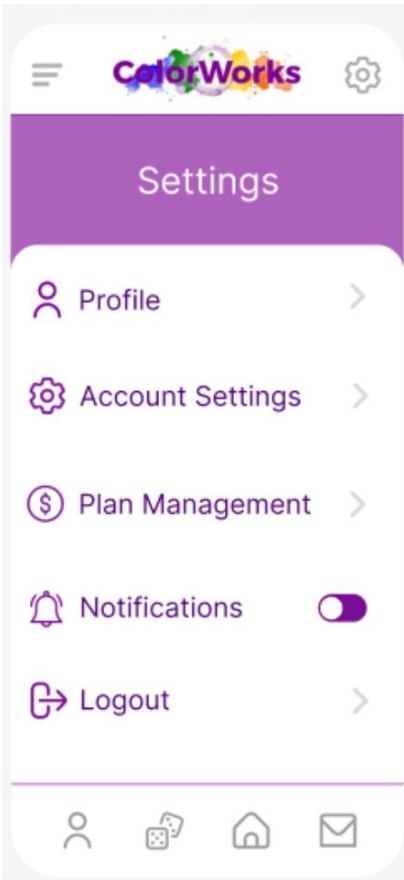






-  Home
-  Profiles
-  All Colors
-  Interaction Styles
-  Change Your Color
-  Membership Plans
-  About Us
-  How-To Guide
-  Settings
-  Logout

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#### 8.4.1 Team Contract

##### Team Members:

- |                   |                   |
|-------------------|-------------------|
| 1) Callie Bockart | 2) Rachel Schnepf |
| 3) Samantha Neri  | 4) Leah Wamsley   |
| 5) Charlene Baes  | 6) Jason Kraisser |

##### Team Procedures

1. Day, time, and location (face-to-face or virtual) for regular team meetings:
  - a. Sunday after 12pm, library or teams
2. Preferred method of communication updates, reminders, issues, and scheduling (e.g., e-mail, phone, app, face-to-face):
  - a. Use teams and a texting group chat for general communication
3. Decision-making policy (e.g., consensus, majority vote):
  - a. Large decisions made in person during Sunday meetings with concrete vote
  - b. In case of tie we default to whichever decision is easier to execute
  - c. Smaller issues we can do general consensus amongst whoever is working on it and if there are issues deciding then bring it up at the Sunday meeting
4. Procedures for record keeping (i.e., who will keep meeting minutes, how will minutes be shared/archived):
  - a. Shared/archived: Microsoft Teams Channel Documents
  - b. Meeting Minutes: We will have a general document for each meeting. It will have an agenda for the meeting on what we want to discuss. Individual highlights about what we are working on/what we will be working on in the future and our availability during the week. It will also highlight important decisions that happened on our application. Any other important information that may need to be shared with the faculty advisor and the company point of contact.

##### Participation Expectations

5. Expected individual attendance, punctuality, and participation at all team meetings:
  - a. Expected to show up to team meetings unless warning us more than 30 mins before
  - b. Missing 2 meetings with no explanation to anyone in the group and we have group intervention
  - c. Keep yourself accountable when getting stuck and knowing when to reach out instead of missing deadlines
6. Expected level of responsibility for fulfilling team assignments, timelines, and deadlines:
  - a. Do your work and pull your weight!
  - b. For each assignment, team meetings should clarify responsibilities of each team member so there is no confusion.
  - c. Reach the implementation and testing deadlines!
  - d. Give yourself at least two days to test your code
7. Expected level of communication with other team members:
  - a. Expected to respond within 24 hours of a teams message directed at you personally or general

- group response
  - b. CC everyone on all emails that have to do with the group
  - c. Put all important documents into TEAMS
8. Expected level of commitment to team decisions and tasks:
- a. Always have at least one other team member code review before pushing to main Follow basic Git principles
  - b. Merge into main before you push your code
  - c. Create branches for your changes
  - d. Be honest with the group for how busy you are equally share responsibility for code reviews
  - e. On Sunday meetings there is required time to share how busy you are that week so the team knows who to help more or give less work to based on their schedule

### **Leadership**

9. Leadership roles for each team member (e.g., team organization, client interaction, individual component design, testing, etc.):
- a. Team Lead – Charlene
    - i. Facilitate group discussions and votes
    - ii. Organize team meetings
    - iii. Reserve group study rooms
  - b. Communication Lead - Callie
    - i. Contacting our faculty advisor and clients
  - c. Meeting Minutes Lead - On Rotation :)
    - i. Fill out meeting minutes during the meeting
10. Strategies for supporting and guiding the work of all team members:
- a. Ask questions early and often
  - b. Be a supportive team member
  - c. Prioritize your own work and time but try to be a helping hand whenever possible
  - d. Always encouraged to answer questions over teams and add helpful links and videos on the “tips and tricks” channel
11. Strategies for recognizing the contributions of all team members:
- a. Start all weekly meetings with kudos
  - b. Shoutout any or all members of your team for something they helped you out with during the week or something they should be recognized for
  - c. Confrontation happens after the Sunday team meetings, do it individually and don’t make a scene