

Anaphy-Science by Numbers

Scope of Work Document

Submitted To: Claire Farrell

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**Dear Fahim,**

We would like to express our sincere gratitude for giving App Maisters Inc. the opportunity to provide you with professional services for AI Web application.

With our extensive experience and expertise in managing complex projects, we assure you that the quality of our services will not only meet but exceed your expectations.

We are grateful for the confidence you have placed in us and are eager to provide you with the best possible service. Once again, thank you, for choosing App Maisters Inc.

**Edward Zain**

Project Manager, App Maisters Inc.

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## Objective

App Maisters will redesign the existing screens on which feature enhancement or addition is required for the Anaphy – Science by Numbers mobile application and its web admin panel. The features to be added or enhanced are explicitly stated against the related screens under the “Current Application Flow” heading. We have not listed the whole application flow, but only the main flow that enables the user to reach the screens that are relevant for enhancement/addition of the features.

The mobile application *(iOS platform)* and web admin panel has already been developed, and we have listed down the relevant application flow according to our understanding. We will only be redesigning selective screens within the mobile application and web admin panel to incorporate the required feature enhancements. We will also add few additional features that will be included in the application.

## Background

The existing functional application, Anaphy, is an anatomy color-by-numbers mobile application. It is intended to be an enjoyable way for students, or anyone interested in Anatomy, to learn about the human body. Anaphy combines the stress-reducing properties of coloring with the competency-increasing benefits of using location association and color recognition, with the added advantage of personalized feedback regarding accuracy that paper coloring books do not offer.

## Current Application Flow

## Login Screen

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|  | The user can enter the application, and access the homepage by logging in the with the existing credentials.  The user can skip the login page and directly access the application homepage, but the user will not be able to access any coloring diagrams. |

## Signup Screen

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|  | In case the user does not have login credentials, then the user can sign up by filling all the relevant details |

## Home Screen

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|  | Once the user successfully logs in to the application, the user will land on the homepage screen illustrating different anatomy categories and incorporating multiple options as mentioned below. User can select any anatomy category to land on the category page.   * Home * My Account * About Us * Settings * Notification Bell Icon * Contact Us Button |

## Category Screen

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|  | On selecting any anatomy category, the user will land on that specific category screen illustrating different sub-categories within to select for coloring. |

## Sub-Category Screen – Feature Addition/Enhancement Required

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|  | **Feature to Add/Enhance:** A new flow has been proposed in this document regarding the user flow in mobile application to enhance the user experience and avoid flow disruption. Remove **Submit** and **Clear All** options from this screen and provide these options on the next screen for better user experience. The pertinent details are stated in 3.6.  On selecting any sub-category, the user will land on that specific sub-category screen illustrating a list of associated structures, related colors, and assigned numbers. User can click on the illustrated diagram and land on the diagram coloring screen illustrated in the 3.6. |

## Diagram Coloring Screen – Feature Addition/Enhancement Required

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|  | **Features to Add/Enhance:**   1. Diagram Boundary Limitation 2. Pen Tool Feature (Standard Manual Coloring Option) 3. Tap-to-Fill Feature 4. Pen Tool Line Thickness Adjustment 5. Color Reference Function 6. Eraser Tool Feature 7. Eraser Tool Size Adjustment 8. Undo Feature 9. Back Button 10. Save/Edit Button *(Instead of Done)* 11. Submit Button   A labelled version of this screen and description of the mentioned features is provided below. |

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* + - 1. Diagram Boundary Limitation:

To prohibit the user from coloring over the diagram's boundary lines according to the reference diagrams.

The user should not be able to color over the defined boundary lines within each diagram as according to the reference diagram provided. Currently, there is no limitation on coloring over the boundary lines.

## Pen Tool Feature:

A standard option for coloring is required to be developed that enables the user to color the diagrams using a pen tool, but within the boundary lines of each region as mentioned in the option above. When the user selects the pen tool, it will open an array of colors to select from. Once the color is selected then the user can finger color on the diagram.

## Tap-to-Fill Feature:

Add a tap-to-fill feature for users to fully color specific regions of the diagram.

Once the user selects the tap to fill option, the array of predefined colors will open from which the user can select the color. After selecting the color, the user should be able to select a particular region of the diagram and fill the region with the selected color.

**Important** **Note:** It is important to mention here that if a user colors a certain region of any diagram with the pen tool and has only partially colored the region. Now, the user wants to use tap-to-fill option mid-way, then the tap-to-fill color will replace the previously colored strokes from the pen tool completely.

* + - 1. **Pen Tool Line Thickness Adjustment:**

The user should be able to adjust the size of the coloring pen tool by moving the button in a slider form having 4 variations (1px, 3px, 5px, 8px).

The pen tool itself will not have any types or different designs for each diagram. It will remain uniform for all diagrams. However, the user should be able to move the slider to the left to decrease and right to increase the size of the pen tool’s line thickness.

## Color Reference Function:

The user should be able to observe the colors associated with different diagram regions by using this function. (Reference screen illustrated above)

## Eraser Tool Feature:

Enhance the eraser tool to allow users to erase any specific strokes or sections the user has colored, beyond just the most recent stroke. Currently, the eraser erases the entire color from the regions of the diagram leaving the diagram totally uncolored.

## Eraser Tool Erasing Thickness Adjustment:

The user should be able to adjust the thickness of the erasing by moving the button in a slider form having 4 variations (1px, 3px, 5px, 8px) similar to pen tool. The user should be able to move the slider left to decrease and right to increase the size of the eraser tool erasing thickness.

## Undo Feature:

Introduce a multi-level undo functionality that allows users to revert previous actions in reverse chronological manner, enhancing the ability to correct errors.

## Back Button:

It should enable the user to go back to the previous screens. If the user has not saved any progress on the diagram, then the user will be directed to the previous immediate screen. If the user has saved some progress by coloring the diagram and then presses the back button then the user will be directed to the screen displayed in 3.5 showing the saved progress. Now, if the user again clicks on the screen, then the user will be directed to the screen on which the diagram was saved by the user before.

## Save/Edit Button:

It should enable the user to save the current coloring on the diagram and makes the submit button visible. As soon as the user presses the save button, the save button will change into Edit button. If the user wants to change any color in the diagram, then user can click the edit button and change the coloring. As soon as the user presses the edit button, the submit button will disappear, and the tools on the screen will become usable, and the edit button will again turn to save button.

## Submit Button:

It will enable the user to submit the colored diagram, and will take the user to the assessment screen where the user will be shown the assessment message depending on the coloring performed. The functions pertaining to this button are discussed in 3.6.12 below.

## Functions Associated with Submit Button:

* + - * 1. **Color Matching:** Once the user submits their completed (colored) diagram, the application should automatically compare the colors used with the predefined color key for that specific diagram. A particular hex color code is associated to each structure of the diagram, and the color code is currently added via the web admin panel.
        2. **Automatic Grading:** The aim is to change the manual grading of coloring diagrams to automatic grading for submitted user-colored diagrams for accuracy. The grading system should be defined in a manner that the user must color all diagram regions *(as according to the diagrams)* with the correct intended color present in the key.
        3. **Assessment and Immediate Feedback:** Users should be able to receive instant feedback on pressing the submit button indicating whether their coloring is correct and highlighting any inaccuracies. The aim is to evaluate the correctness of the coloring for each section of the diagram based on the color key, and instantly notify the users about the associated result on submission.

In case the user colors the diagram regions correctly and submits, then an in-app popup should appear stating: ***“Congratulations! You have colored this diagram correctly.”***

In case the user colors the diagram regions incorrectly and submits, then an in-app popup should appear stating: ***“I’m sorry, you have not colored this diagram correctly. You have X missed regions.”****,*where X indicates a number e.g. 2.

In case the user colors the diagram partially *(only some regions)* and submits, but the color accuracy matches the pre-defined color, then an in-app popup should appear stating: ***“Congratulations! You have colored this diagram correctly. You have X more regions to go.”***,where X indicates a number e.g. 2.

In case the user colors the diagram partially *(only some regions)* and submits, but the color accuracy does not match the pre-defined color, then an in-app popup should appear stating: ***“I’m sorry, you have not colored this diagram correctly. You have X missed regions, and X more regions to go”***,where X indicates a number e.g. 2. \*\*uncolored regions should not be marked as incorrect and should be shown separately as mentioned\*\*

* + - * 1. **Re-try and Re-submit:**

The user should be allowed to recolor the same diagram in case the user has submitted an incorrectly colored or partially colored diagram. The user should be able to erase their mistakes, try again, and resubmit. No progress should be lost after the submit button is pressed.

The user will be shown the options “Re-try” and “Home”. If the user has not colored the diagram correctly, missed any region then along with the relevant message “Re-Try” and “Home” both will be visible. On pressing the Re-Try option, the user will be directed to edit the diagram, re-save, and re-submit. On pressing the “Home” screen the user will be directed to the Home Screen. In case, the user has colored the diagram perfectly then the user will be shown the relevant message along with the option “Home” only.

## Admin Panel

## Admin Login Screen

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| The admin will enter the login credentials and land on the dashboard to access the admin options. |

## Admin Dashboard Screen

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| After successful login, the admin will land on the dashboard screen incorporating different options. The option relevant to this scope is “Element” that has the following options.   * Listing * Add *(Already Functional)* |

## Admin Element Listing Screen - Feature Addition/Enhancement Required

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| **Increased Data Management:**  The admin panel will need capabilities to manage a vast amount of data related to the predefined color keys for each anatomy diagram. This includes adding, updating, and removing color keys as the app's content grows or changes.  On clicking the Listing option within the Element header, the admin will observe the listed element entries that incorporate details provided below.   * S.No. * Sub-Category Name * Element Name * Number * Colour Code * Actions -> *View, Edit, Delete*   + View and delete options are already functional   + **Feature to Add/Enhance:** The **edit** option is not currently functional and the admin can’t update any of the previously added hex color codes. The edit option should enable the admin to update the hex color code associated with the diagram region. |

## Sub-Category -> Add - Feature Addition/Enhancement Required (Assumption Based)

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| **Feature:** Uploading image files or PSD/SVG Files **(Assumption Based- Subject to change)**   * The admin should be able to upload 3 files with variations of colored, un-colored, and labelled (either PNG images or PSD/SVG files – **still to decide**) for enabling the automatic assessment on the mobile application for user |

## Admin Analytics and Reporting - Feature Addition/Enhancement Required

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| **Feature:** Reporting - Google Analytics   * Need to incorporate Reporting option on the side menu after the ***Content*** header. The admin will be redirected to the Google Analytics web view on clicking the Reporting header. |

## 

## Operating System & Limitations for Mobile App

The existing application has the following specification standards that should be maintained during the revamping.

* **iPhone Compatibility:** iOS 14.1 or later
* **iPad Compatibility:** iPadOS 14.1 or later
* Developed on SWIFT

## Roles and Responsibility

This section describes the roles and responsibilities that must be fulfilled for successful implementation of the project:

* 1. **Customer’s Responsibilities:** The customer will be responsible for the following activities:
     + Availability during all phases, especially during development & execution
     + Timely approval of all relevant documents, designs & builds
     + Hosting infrastructure, Apple & Play Store account
  2. **App Maisters Responsibilities:** App Maisters will be responsible for the following activities:
     + Implementation of the proposed solution.
     + Availability of resources as per the project plan.
     + Documentation of the project.

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| **Phase** | **Team** |
| Requirement Analysis/ Scope Finalization | Business Analyst/Project Manager |
| Design Phase | Business Analyst/Project Manager UI Team |
| Development Phase | Project Manager Development Team QA Team  IT Department |
| Quality Assurance Phase | Project Manager QA Team Development Team  IT Team |
| Support | Project Manager Support Team  IT Department |

App Maisters will provide the mentioned team from its end during the mentioned phases.

## Deliverables

The following deliverables will be provided by App Maisters which will be considered as a Sign Off:

* Fully functional & tested application on iPhone and iPad
* Fully functional & tested Admin Panel

## Assumptions

Following assumptions are taken into consideration during the preparation of this proposal:

* The client will actively participate during all phases.
* This document comprises of all the functional specifications which are agreed upon between the client & App Maisters. Any additional features or changes to the scope will be handled through Change Request process. Time and cost effect of these changes will be agreed mutually between both the parties.
* If the app requires server-side hosting, then the Client will be responsible for setting up the server or purchase the hosting.
* If the app requires the use of a chatting or notification feature, client will need to provide Firebase paid account.
* Estimated effort calculation is based on 8 hour per day and 40 hour per week.

Client will nominate one key person (either another person or himself) to act as the executive sponsor and would serve as the main liaison point between the two parties. This will provide App Maisters with the opportunity to communicate issues and concerns that may affect the success of the project to a decision maker and hence facilitate swift corrective action where necessary.

* Client will provide feedback to questions raised by App Maisters project team to draft documents submitted for review. Any decisions that need to be taken must not be delayed more than three business days. Any further delay in providing such feedback will result in a corresponding delay in project timeline.
* It is assumed that all milestone and deliverables will be signed off in a timely way by the client. Client will respond within a mutually agreed timeframe of receipt of written notice with respect to the acceptance of key deliverable. This timeframe is assumed to be three business days.
* The system will be developed with US English interface only.
* In performing our services, we will rely upon any instructions, authorizations, approvals or other information provided to us by the client.
* The Designs of the application will be as per the information provided by the client in Design Requirement Document (DRD).
* Upon signing off of the DRD, any changes requested in designs will be treated as a Change Request.
* App Maisters will provide a complete walk through to the client once the project is in beta phase.
* App Maisters will make the app work in general. App Maisters will not be responsible if the app does not show desired behavior on any specific device.
* Store Credentials (Apple & Google Store) will be provided by the Client.
* Furthermore, App Maisters would not be responsible if iTunes rejects the app on submission for any other reason or functionality which is not described in the SOW.

## Warranty and Post Production Support

* App Maisters will provide warranty of **30 Days** once the application is successfully submitted and becomes live.
* The App will be under support agreement after the warranty period is over. For this a separate Annual Maintenance Contract (AMC) is to be signed between the two parties.
* App Maisters will make available via email, telephone or cell number, 5 working days per week, and 8 hours per day, excluding general and local public holidays, individuals sufficiently skilled to assist in problem resolution.
* App Maisters has no warranty obligation for products that the Customer acquires from third parties, even if App Maisters assisted in selecting them, and the failure of such products or their suppliers will not affect customer’s obligations to App Maisters
* App Maisters has no warranty obligation for the App if customer acquires services from third party developers.

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| --- | --- |
| **Client’s Representative** | **App Maisters Representative** |
| **Name of Reviewer:** Claire Farrell | **Project Manager:** Quinn Hughes |
| **Date:** | **Date:** |
| **Signature:**  [Claire Farrell (May 30, 2024 15:15 CDT)](https://na1.documents.adobe.com/verifier?tx=CBJCHBCAABAAHRJZRWHTjHbCSOFZKDNEejvA0xAQ6z1w) | **Signature:** |