

Overview

The purpose of this document is to track the active set of requirements that are used for the CSCI 2340: Software Engineering Art Generation semester-long project. Throughout the semester, this document will be maintained to accurately reflect the requirements that are used within the system. The requirements are broken into separate sections: Art Generation Output (AG_ART_REQ), Security (AG_SEC_REQ), System (AG_SYS_REQ), and User Interface (AG_UI_REQ) requirements.

Requirements

Art Generation Output

This section contains the requirements relative to the Art Generation Output for the Art Generation project.

AG_ART_REQ_1

Requirement: The Art Generation Project should output entertaining and artistic

Reasoning: The intended goal of the project

AG_ART_REQ_2

Requirement: The Art Generation Project should contain multiple art generation modules (small projects).

Reasoning: Allow users to explore and experiment with different forms of art and the impact of the input dataset in different forms

AG_ART_REQ_3

Requirement: The user can access art-gen through web-application or Desktop

Reasoning: The main gateway for users to interact with the backend elements of the project, through the frontend

AG_ART_REQ_4

Requirement: The result should be understandable/meaningful and have some intuitive connection to source

Reasoning: Inform the user of what is happening and how the art generator created said output

AG_ART_REQ_5

Requirement: The user should feel that they are expressing their intents and ideas through their controls and the generated visuals

Reasoning: Allows the user to customize their outputs based on their interests, making the outputs more meaningful rather than a static output

AG_ART_REQ_6

Requirement: Art display should have a relatively fine resolution.

Reasoning: Having blocky art may not be desirable from a user standpoint.

Security

This section contains the requirements relative to Security for the Art Generation project.

AG_SEC_REQ_1

Requirement: Webcam data should be protected such that a user's personal information and image are not at risk.

Reasoning: We want to let the user use their webcam to feed an input into the art generation, and we want them to feel safe while doing so.

AG_SEC_REQ_2

Requirement: Social media linking should be protected.

Reasoning: Ensuring safe connection between our platform and external sites like Instagram, Snapchat, and Facebook is vital to maintaining security for our end user.

System

This section contains the requirements relative to the System of the Art Generation project.

AG_SYS_REQ_1

Requirement: The system should contain relatively low latency for processing the art generation.

Reasoning: Users most likely will not want to watch slow, non-realtime graphics.

AG_SYS_REQ_2

Requirement: The user can download the generated art as either an image file to their local device.

Reasoning: Allows the user to save interesting outputs and manually share at their own will.

AG_SYS_REQ_3

Requirement: The user can download the generated art as either a gif file to their local device.

Reasoning: Allows the user to save interesting outputs and manually share at their own will.

AG_SYS_REQ_4

Requirement: The user should be able to directly share generated outputs to social media outlets (ie. Instagram, Facebook, Snapchat).

Reasoning: Increases shareability and web-app visibility.

AG_SYS_REQ_5

Requirement: There should be multiple data sets that the user can select from to generate art in different, meaningful ways.

Reasoning: Having multiple databases controlling art generation adds variation to the art generation.

User Interface

This section contains the requirements relative to the User Interface of the Art Generation project.

AG_UI_REQ_1

Requirement: The user should be able to choose an output sharing destination (File, link, social media, etc.)

Reasoning: Share outputs with other users, increasing creativity

AG_UI_REQ_2

Requirement: The user should be able to select an input source as their webcam or a stock file.

Reasoning: This gives the user the option to have both graphics created based off of their likeness or another pre-existing file.

AG_UI_REQ_3

Requirement: The user should be able to select different datasets to generate the effects of the art generator.

Reasoning: Since we plan to have multiple datasets in our system, letting the user choose which dataset is impacting their art generation is important for user customization.

AG_UI_REQ_4

Requirement: The user interface should be intuitive and easy to use.

Reasoning: The art generation project should not include too many options. Users should really focus on input selection, output display and output sharing. Keeping a simple and intuitive UI is important to not scare users away.

AG_UI_REQ_5

Requirement: UI instructions should be readily available to the user

Reasoning: To make using the interface easy, instructions should be readily available so they can quickly learn how to use the system.