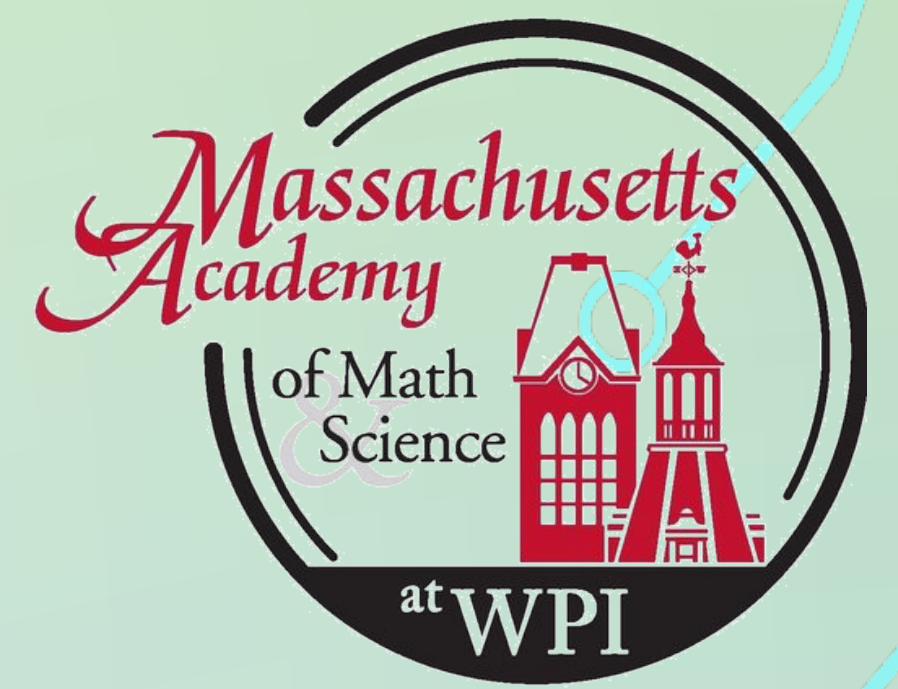




IMAGINE: VR PAINTING

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Motivation

Many artists, professional or amateur, struggle with getting their ideas to the public. Innovative technology such as virtual reality (VR) brings a new set of options to these artists, making the opportunities to express themselves limitless. The goal of this project was to develop a VR painting app that creates a comfortable, calming environment to create artwork and improves the quality of life of the user. Specifically, the app targets users who like to draw by improving current technology available to the users. The app supports the idea of VR painting by also giving artists who have limited mobility the chance to create works of art once again.

Competitors

There are no painting apps available on Google's Daydream, but other VR platforms have painting apps.

Samsung Gear VR has Circumpaint, which is rated poorly. There is no controller to act as a paint brush. Instead of painting without restriction, users fill in pixels one-by-one. However, it is very cheap.

Another app that is rated much higher is called Tilt Brush. Tilt Brush works only for HTC Vive users and allows them to draw in 3D within a small virtual environment. Tilt Brush also has a large selection of colors and brush types for the user to choose from, but it is very expensive.

Targeted Audience

This app targets Daydream users and people who want to paint in VR. Both professional artists and casual doodlers will be able to use this app.

The App

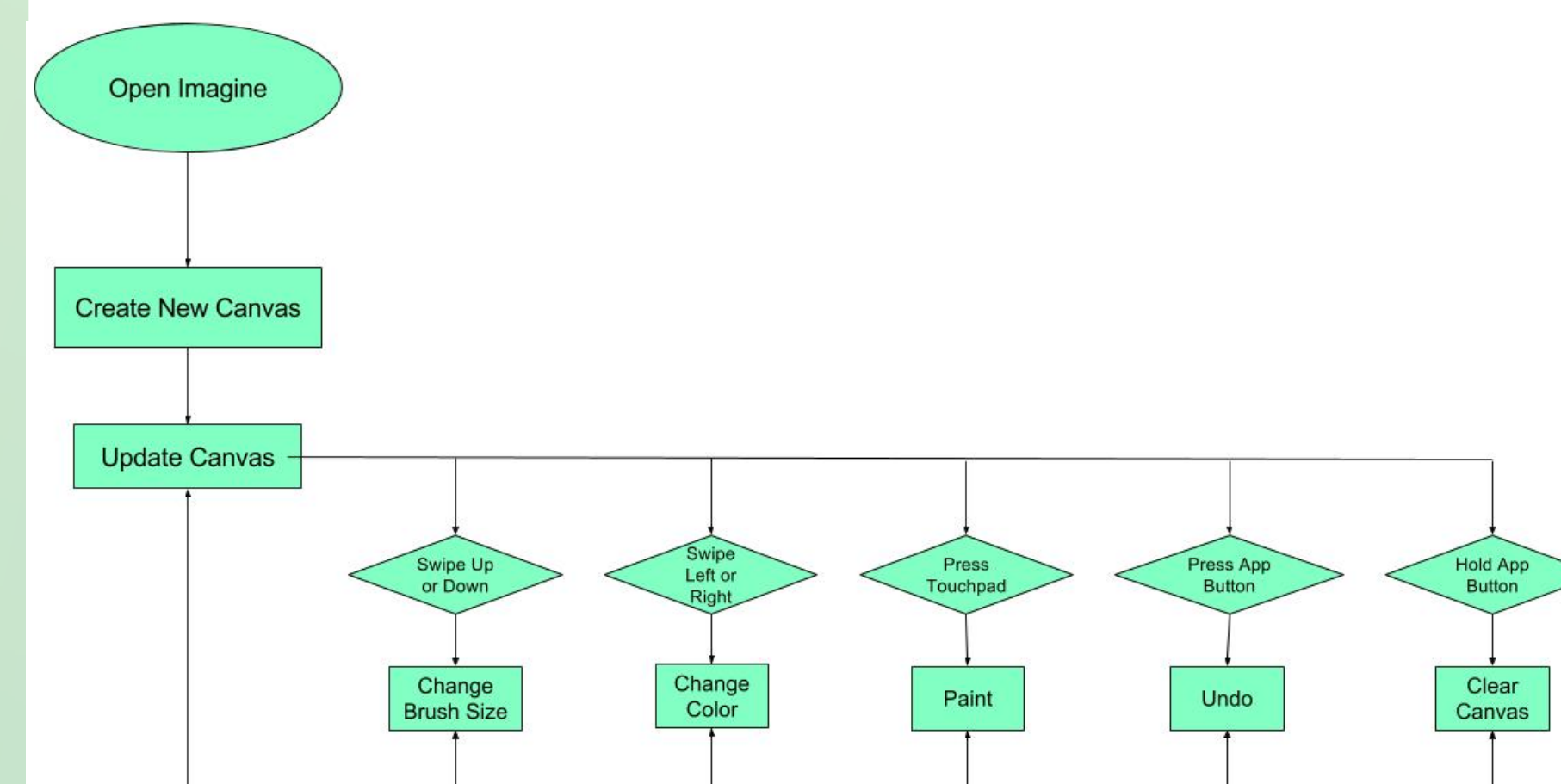
This app was developed in Android Studio. The framework of this app is from the Github repository android-sdk-googlevr. Code that relates to setting up the VR environment, initiating sensors on a Daydream ready phone, and enabling the controller handler events are all from Google Inc. Additional elements added such as extended color palettes, different brush sizes, and erasing were created by the developers to improve upon the user painting experience.

The 360° canvas allows the user to paint anywhere he or she wishes to with just a tap of a button. The user is able to paint anywhere he or she is able to see.

The app also allows the user to paint unrestricted with the aid of multiple color palettes and brush types otherwise not found in other free commercial available options. With 81 possible colors and the ability to change opacity, depth, or size at the swipe of a button, the user's options to paint with are limitless.

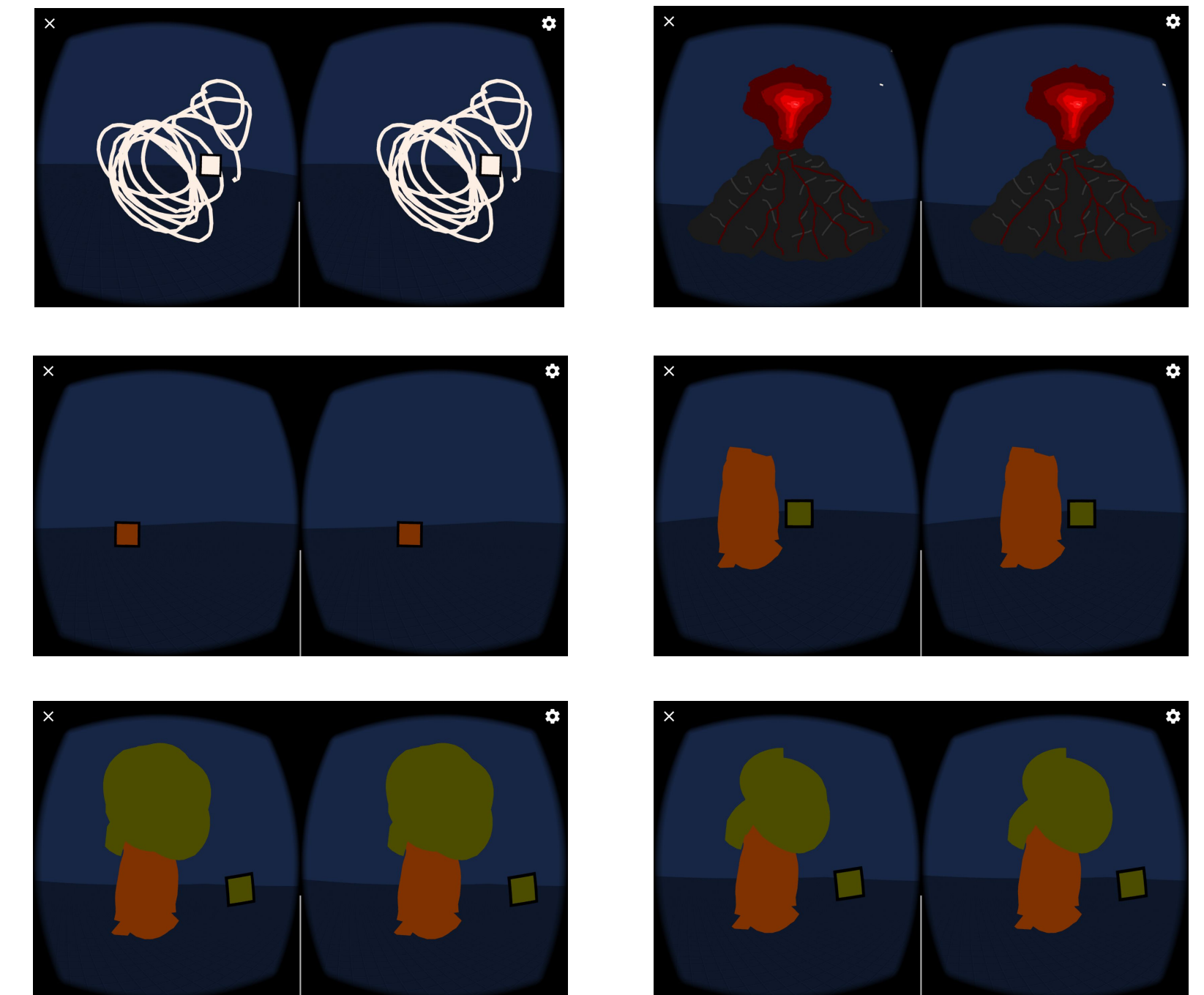
The additional feature of undoing was added for the user's convenience.

The image below shows how the app operates after opening the app.



Screenshots

These screenshots are examples of what the user might see when using the app.



Future Extensions

An additional feature that could be added in the future is the ability for a user to animate their creations. The animation feature would require the implementation of a frame-by-frame painting process. Another additional feature that could be added is user art-sharing. Users of the app could visit other artists' galleries and view the paintings they have created. Paint by head tracking allows even users with physical disabilities to experience the joy of painting in the comfortable, calming environment of VR. The option of activating paint options with voice command prompts also opens doors to those who are unable to access or use the Daydream controller.

Saving is also a crucial feature for users who want to save their creations.