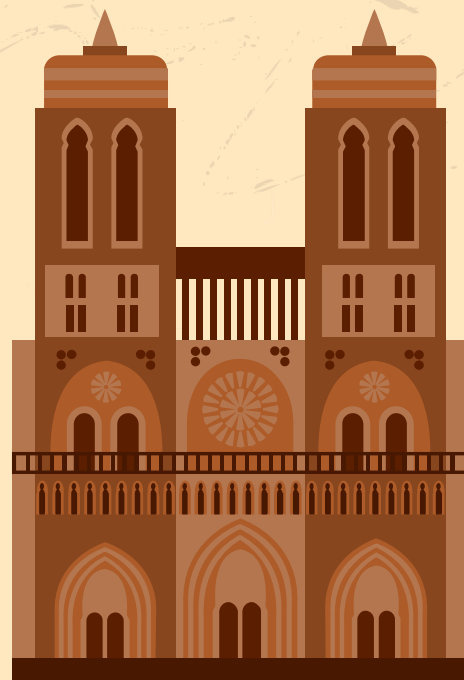


Revivature

Bringing AI into the world of architecture.





Team members

Daniel:

- Tennis enthusiast
- Loves Math Kangaroo Problems
- Interested in geography
- Lives in North Carolina

Kenneth

- Plays tennis/ping pong
- Part-Time Hacker
- Violinist
- Lives in New Jersey

Isabel

- Plays badminton and swims.
- Pianist and Flutist
- Lives in Michigan
- Enjoys reading, digital art and math.



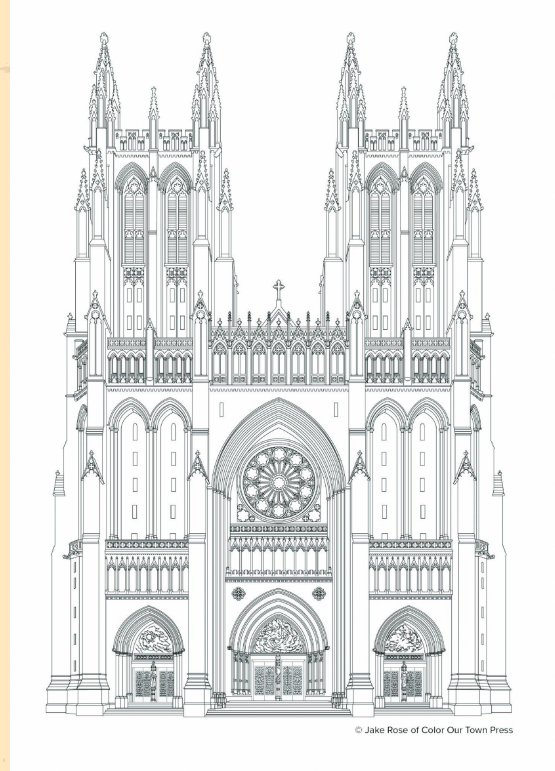
The Problem

Many old architectural styles are becoming obsolete, and knowledge of their techniques is disappearing with them. Because of this, it is getting much harder to recreate and restore older buildings.



Revivature

Revivature is an application designed to revive and recreate old styles. The program analyzes a dataset, and using information from it, along with input/criteria from the user, creates a new sketch of a building in that style.



The AI Models

Revivature will use a combination of a Generative Adversarial Network (GAN) and a CLIP model. The GAN model is currently being trained with five different styles of architecture: Classical, Gothic, Baroque, Neoclassical, and Victorian. The CLIP model, on the other hand, is used to choose the type of architecture.

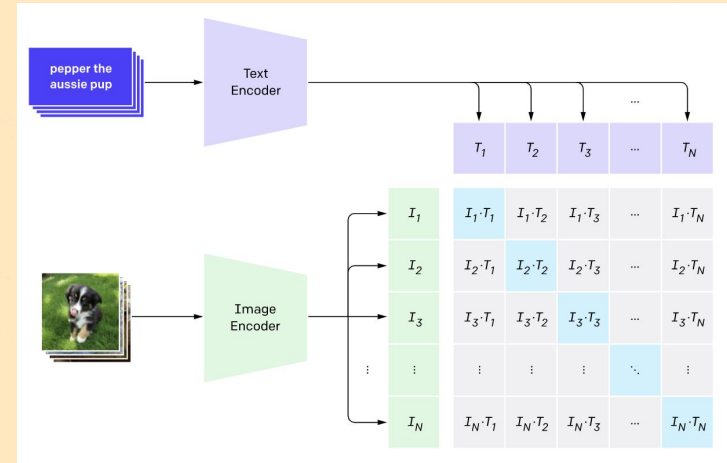
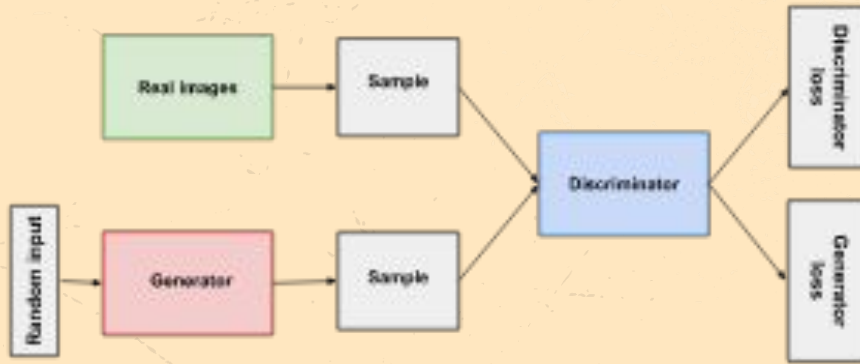


Diagram of the GAN model -

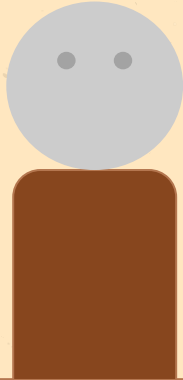
[Overview of GAN Structure](#) | [Machine Learning](#) | [Google Developers](#)

Diagram of the CLIP model -

[Generating Images from Prompts using CLIP and StyleGAN](#) | by Victor Perez | [Towards Data Science](#)

Market Size and Target Audience

Revivature is designed for restoring and recreating historic architectural styles, being most useful for architects looking to revive those building styles and historians looking to study them.



As of May 2021, there were 2,910 historians and 116,242 architects in the US.

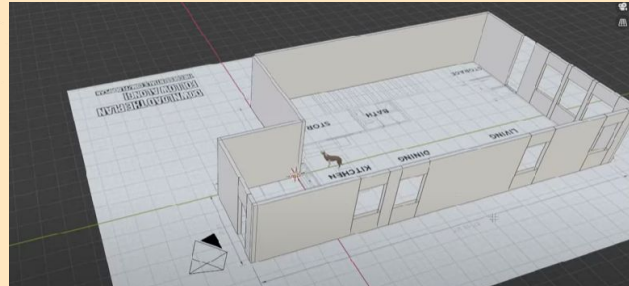


Our Competition

Wings3D- A 3D modelling focused site, this site does allow architects to build small projects, such as doors or windows. However, due to this highly subjective purpose, it cannot sustain architects over their career. Our site is able to load both large and small projects rapidly, meaning it is a go-to software for architects.

Blender- A 3D modelling program which is capable of sustaining movie edits, audio edits, graphic design edits, and have the ability to create whatever you want. It has several disadvantages, as it is heavy on your CPU and GPU especially, and does not have the ability to finish up historical buildings not yet analyzed by the AI.

Sketchup- A 3D modelling program designed specifically for architecture, its major drawbacks are that it cannot recreate historic buildings through just AI, and is all manual work.



Business Model

Revivature is a web-based software that consists of a combination of a freemium-type business model and a subscription-type business model.

Free

- ❑ 5 styles of architecture
- ❑ Crop images
- ❑ Change image saturation
- ❑ Share images

Premium

- ❑ Access to all databases
- ❑ All basic editing features
- ❑ Annotate on images
- ❑ Digital protractor

Privacy and Ethics

Our startup will be facing customer privacy issues in the first two scenarios:

- A) Customers will put in age and email(Verification required) to create an account for Revivature. Those who subscribe with premium will also be required to provide credit card information.
- B) When taking images with which to train our model, our photographers will likely capture guests visiting these sites as well.
- C) Since it is web based, it can save lots of time and unnecessary loading screens for the real examples, plus HTTPS calibrated protection helps against hackers.
- D) Pentesters and active IT Security teams(Red, Purple, Blue)
- E) Rapid Response- Replacement of all affected computers in the affected departments to ensure further data breaches are not to occur.



Funding Purposes

Improvement of Technological Infrastructure

- Extending premium benefits
- Branch out to 3D World
- Faster AI
- Spatial Movement

Recruiting Photographers

- Better trained models
- Photographers who capture RAW images
- Next step to 3D Modelling

Feedback from Historians and Architects

- Better accuracy of AI
- Higher quality in general
- Greater amount of sophistication
- More personalized for both historians/architects



THANK YOU FOR LISTENING!



Please invest in us