Weekly Report

3/12

1. Summary of Weekly Progress

we do a lot papper reading and have some progess with backend developing. We can now upload two images to frontend and the backend models can use them as input them generate text to frontend.

2. Task Assignments and Contributions

Team Member	Assigned Tasks	Completion Status
徐浩哲(01157030)	backend develop(connect used model to a fast api file and test it in a web)	In progress
翁子翔(01157048)	1. The implementation process of Stable Diffusion and related papers. 2. Read *Denoising Diffusion Probabilistic Models* 3. To implement a simple version of a diffusion model	1. Complete 2. Complete 3. In progress
蔡豐蔚(01157010)	Read *Latent Diffusion Models* (Pt.1~Pt.3.1)	In progress

2.1. Comments

Comments
use fast API to connect florence(for image recognize) and phi(for translate and make it to substittle)and use localhost:8000 to connect it to html + js front page
Organized the process of the stable diffusion model and related papers. After reading the 'Denoising Diffusion Probabilistic Models' paper, I understood the ideas behind the Forward Diffusion Process and Reverse Process. I've also put together the information into an article and will try building a simple version of the diffusion model next week.
The first part of *Latent Diffusion Models* paper discusses the differences between Autoregressive models (AR), Generative Adversarial Networks (GAN), and Diffusion Models (DM). The Two-Stage Image Synthesis approach combines the strengths of various generation methods.

3. Challenges and Issues Faced

- Finished reading the DDPM, but to understand latent space, we need to read more papers.
- Still figuring out the latent diffusion model
- Backend response time is too long

4. Next Steps and Goals for Next Week

Deploy front end to web and connect to back end through internet.

Add diffusion model in backend and test if it generates properly.

Paper reading, try to learn how to use embading space to edit photo.

5. Additional Notes/Comments

We may read more papers to understand the concept.