# Testing Plan for creating commercial presentation slides in Stable Diffusion and ControlNet

## Goal of the project

**This project’s goal is to make it easier for anyone to make slides that they want, in any design they want. Essentially it brings customisation to another level because people can start making slide designs if they can describe it and in wayyy less time, so that more time can be spent practising the presentation itself rather than worrying about the design of it.**

## 1. Testing Objectives

* **Find areas of weakness in the current process, and optimise it.**
* **Ensure that there are no artefacts or that each slide doesn’t look broken**
* **Ensure that all slides are made**

## 2. Testing Scope

1. **Creating prompt**
2. **Generating images of presentation slides**
3. **Removing the foreground**
4. **Upscaling the background in img2img**
5. **Upscaling the background in upscaler**
6. **Apply background to presentation slides**

## 3. Testing Approach

**Whether it looks good or not is subjective. This testing plan tests for whether there’s anything that looks out of place or broken.**

## 6. Test Cases

### Testing for image generation:

**Test different prompts and ControlNet settings to verify that the generated images are consistent and high quality.**

* **Image rendered is very inconsistent and bad looking**
  + Create a prompt that describes what the design is, and what the general background colour scheme is. It might also help with the consistency by putting ‘Presentation slide deck’ or ‘ Presentation slide template’ at the front.
* **Out of memory**
  + Decrease the memory usage by decreasing resolution, try not to decrease resolution below 512x512 as that might reduce the quality more.

### Testing for foreground removal:

**Test the inpainting process to ensure that it properly removes unwanted foreground elements.**

* **Artefacts still appearing**
  + Need to change up the prompt, describe the background (sometimes just changing the prompt to the background colour works) or be creative with it (change the prompt to something that might fit the background)

### Testing for upscaling in img2img:

**Test that the background images are properly upscaled using the img2img tool.**

* **Out of memory**
  + Lower the resolution
* **Other things appearing**
  + The denoising strength might be too high, try lowering it. Keep it at around 0.35 - 0.5.
* **Image doesn’t look the same as the original**
  + Same problem as above

### Testing for upscaling in upscaler:

**Verify that the upscaled images have the desired resolution and that they do not contain any artefacts. Presentation slides are generally 1920x1080 resolution so the background images has to be at least 1920x1080 or higher to prevent it from looking pixelated**

* **Artefacts when upscaled**
  + Upscale the image in img2img again with the same resolution

**Description:**

The backgrounds rendered in A1111 are applied to existing blank presentation slides.

**Bugs that could be encountered:**

* **Background still looks blurry**
  + Background haven’t been upscaled, do the steps above first

### Integration testing for applying backgrounds to slides:

**Test that the upscaled images are correctly applied to the presentation slides and that they fit the design.**

**Verify that the text, charts, and icons are not affected by the background change.**

* Using the blank slides, the layout shouldn’t be affected when the background is changed due to ControlNet. If it is affected, do shift the layout to fit the background, use the reference images as a guide.

### End-to-end testing:

* **Test the entire process from image generation to slide creation to ensure that everything works seamlessly.**
* **Test the process with different prompts and settings to ensure that it is robust and reliable.**
* **Verify that the output slides meet the desired quality standards (no artefacts and doesn’t look broken).**

## 10. Test Completion Criteria

* **Layout: Use a consistent layout throughout the presentation to maintain a sense of coherence. Keep margins and spacing consistent, and make sure that each slide is visually balanced.**
* **Typography: Use legible fonts that are easy to read from a distance. Choose font sizes and weights that vary according to the importance of the text.**
* **Colour scheme: Choose a colour scheme that is consistent with your brand or topic, and that is easy on the eyes.**
* **No Artefacts on any slides**
* **All slides are created (Title, agenda/TOC, thank you, data, etc)**