**Task 1 Documentation: Documentation for Setting up Stable-Fast-3D Offline**

## **1. Steps Taken**

**Step 1: Cloning the Repository**

* The first step is to clone the open-source repository from GitHub using the following command:

“git clone https://github.com/Stability-AI/stable-fast-3d.git”

* This command will downloads the repository to the local machine.

**Step 2: Setting Up the Virtual Environment**

* I created a virtual environment to isolate the dependencies of the project using the command:

“python -m venv venv”

* After the virtual environment was created, I activated it using the command:

“.\venv\Scripts\activate”

**Step 3: Installing Dependencies**

* With the virtual environment activated, I navigated to the project folder and installed the required dependencies using pip:

“pip install -r requirements.txt”

* This installed all necessary libraries and dependencies, including PyTorch, Hugging Face libraries, ONNX runtime and uv\_unwrapper.

**Step 4: Downloading Pre-trained Model Files**

* The project relies on several pre-trained models to function. I used the Hugging Face hub to download the models manually since running the project offline required local access to these models.
* The models were stored in the default cache folder on my machine:

“huggingface-cli download stabilityai/stable-fast-3d --cache-dir ./models”

**Step 5: Running the Model**

* Once the dependencies were installed and the models were downloaded, I ran the following command to process an example input image (chair1.png):

“python run.py demo\_files/examples/chair1.png --output-dir output/”

* This command processed the image and saved the output in the specified directory (output/).
* When I opened the output folder the chair1.png image was stored in the folder offline.

**2. Challenges Faced**

* **Accessing Gated Models:**
  + The models required for the project were hosted on Hugging Face, and access to some was gated.
  + Solution: I authenticated with Hugging Face using a token to gain access.

## **Conclusion**

I successfully set up and ran the Stable-Fast-3D open-source AI project offline on my local machine. After cloning the repository from GitHub, I created a virtual environment and installed all the necessary dependencies using the requirements.txt file. To ensure everything worked offline, I manually downloaded the models from Hugging Face and stored them locally. Along the way, I faced a couple of challenges—such as needing to authenticate with Hugging Face to access gated models and dealing with ONNX runtime errors related to the GPU. I solved the latter by switching to CPU execution instead.