User Manual

1) Installing Server and Desktop App

Install Qt and Required Tools:

```
sudo apt update
sudo apt install qt5-default qtcreator build-essential
```

Generate Makefile:

Use the `qmake` command to generate a Makefile from your .pro file. Run this command in the directory where your .pro file is located:

```
qmake server_desktop_app.pro
make
```

Run the Application:

```
./server_desktop_app
```

To run the 3D model with the desktop app, you should put the Linux directory provided for the 3D model to `/usr/lib/Linux`. Also, a config file created as `.txt` and the IP of the server should be put in the `config.txt` file. `config.txt` should be placed in `/usr/lib/linux`.

2) To Compile Android Application

Install Android Studio:

1. First, we need to install Android Studio.
2. Install Android SDK.

Launch Android Studio:

1. Select "Open Existing Android Project."
2. Android Studio may ask to update the plugin and other dependencies, click "Yes."
3. Sync the project with Gradle files by clicking "Sync Project with Gradle Files" button in the toolbar.

Build the APK:

1. Go to `Build > Build Bundle(s) / APK(s) > Build APK(s).`
2. Connect an Android device via USB or use an Android emulator.
3. Click the Run button in the toolbar.

3) Compiling ESP32 Codes with Ubuntu

Install Arduino CLI:

```
curl -fsSL https://raw.githubusercontent.com/arduino/arduino-
cli/master/install.sh | sh
```

Move Binary Directory:

```
sudo mv bin/arduino-cli /usr/local/bin/
```

Update Arduino Core Index:

```
arduino-cli core update-index
```

Create Arduino Configuration for ESP32 Board:

```
arduino-cli config init
arduino-cli config set board_manager.additional_urls
https://raw.githubusercontent.com/espressif/arduino-esp32/gh-
pages/package_esp32_index.json
```

Update the Index:

```
arduino-cli core update-index
```

Install ESP32:

```
arduino-cli core install esp32:esp32
```

Compile the ESP32:

```
arduino-cli compile --fqbn esp32:esp32:esp32wrover scanner.ino or
user_esp.ino
```