

# SketchBot

CS 101 Project By-

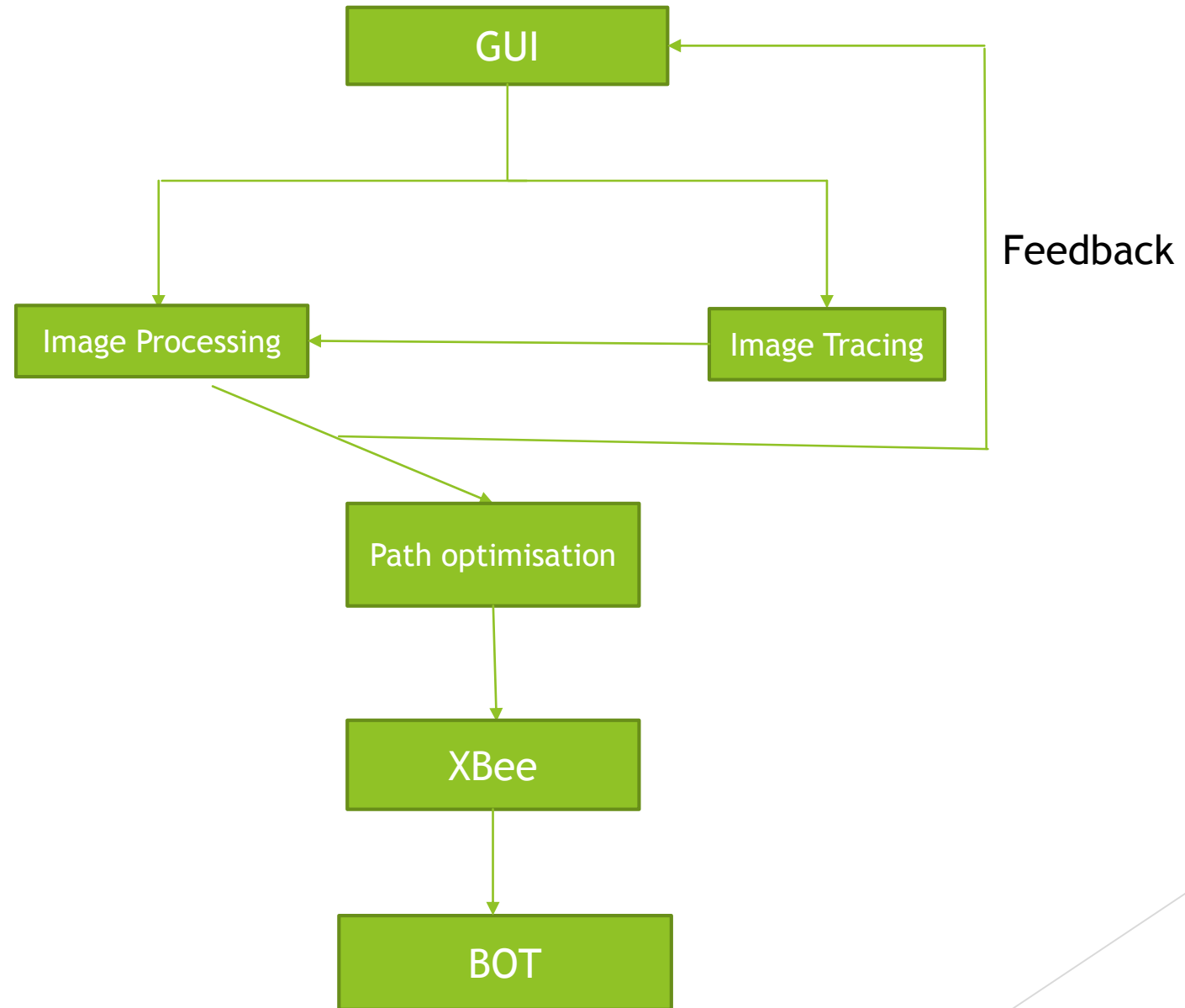
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# Problem Statement

- ▶ The project was aimed at creating an Automated Drawing Bot and its supporting software.
- ▶ We aspired to process an image given as input by user and extract a path from it using Image Processing techniques.
- ▶ The path would be relayed wirelessly to the bot
- ▶ The bot with a marker attached to it would replicate the path in the physical world.

# Goals

- ▶ Image Processing
- ▶ Motion Control
- ▶ Servo Motor Control
- ▶ Path Extraction Algorithm
- ▶ User Interface
- ▶ Wireless Communication using XBee



# VIDEO LINKS

- [Video S UI](#)
- [Video S BOT](#)
- [Video CS UI](#)
- [Video CS BOT](#)

# Challenges Faced

- ▶ Learning to use OpenCV libraries.
- ▶ Connecting the GUI to the image processing code.
- ▶ Extraction and optimisation of the path from the image given as input by the user.
- ▶ Designing and mounting the mechanical part to fix the pen such that it can be lifted when required.

# Future Extensions

- ▶ This project can be a crucial module of a robotic system.
- ▶ To read a map and obtain a path from it and provide it to an automated bot.
- ▶ The image Processing part can be used in the fabrication industry
- ▶ To make an exploration bot that can venture into areas dangerous to human life.

THANK YOU!!!