Intelligent Robot Navigation
For elderly assistance

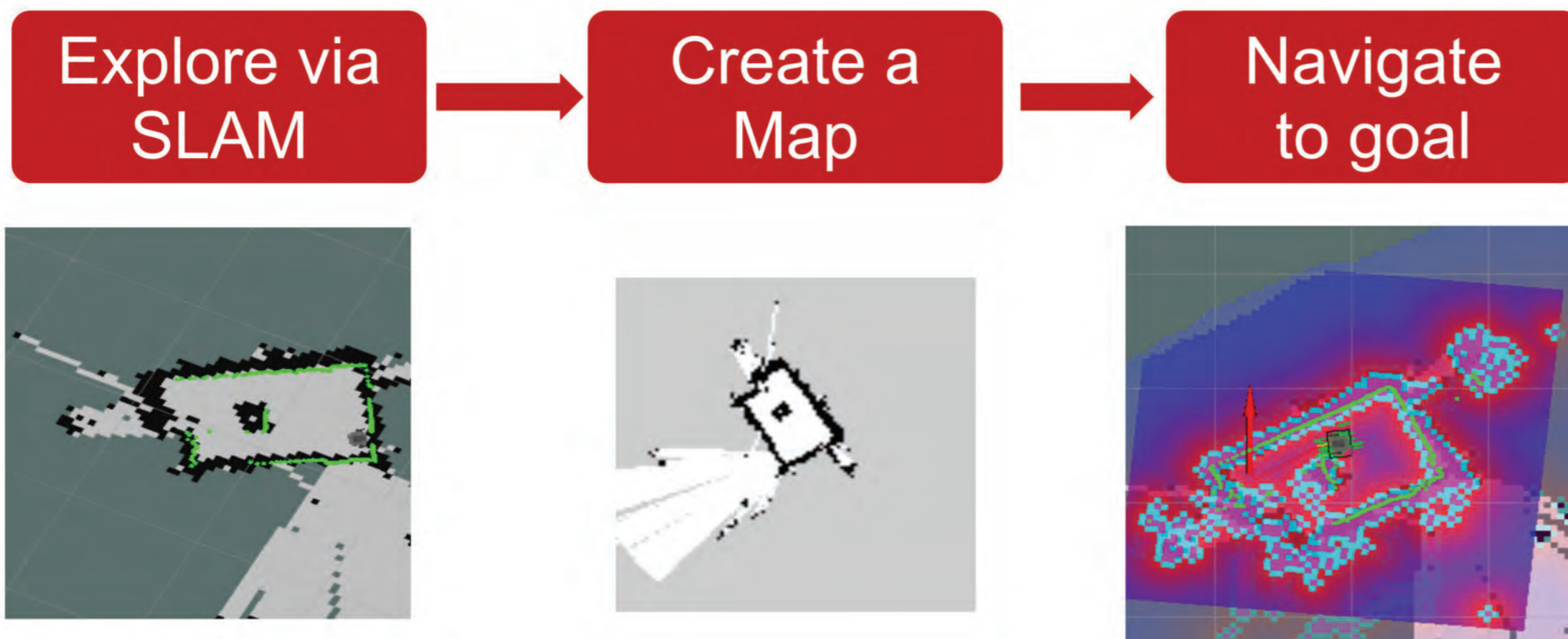**Student:** Arya Sreekumar   **Supervisor:** Dr Smitha K G

Background

Physical and mental care for fit or disabled senior citizens is an increasingly growing market for new technology solutions. To curb the lack of manpower, assistive care has been introduced. Its role has the potential to expand as the technology advances, as well as reduce costs and risks while enabling seniors to age well.

Objectives

1. Create and functionally test robotic navigation using TurtleBot3 via Simultaneous Localization and Mapping (SLAM) technique
2. Monitor elderly with Raspberry Pi camera module and PushBullet application
3. Use speakers to further enhance elderly assistance

Move
via Robotic Navigation

Explore via SLAM → Create a Map → Navigate to goal

Speak

Using *eSpeak* software on Rpi and connecting speaker to Rpi audio jack

See
via Rpi Monitoring

Motion detected by Rpi Camera → PushBullet Application → Android Phone