SmartSpace Mapper

Presented by :
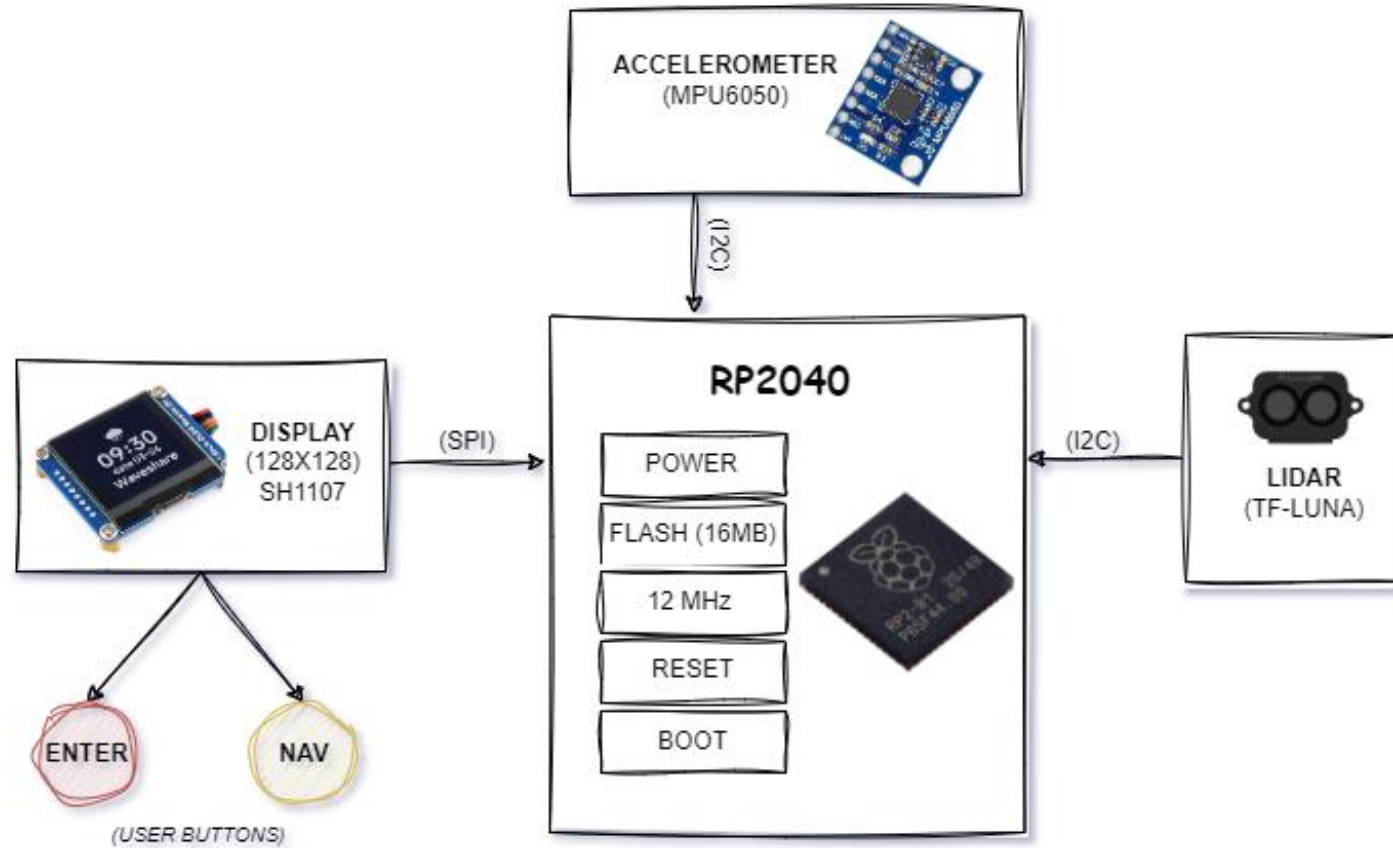Arjun Sukumaran
Jithendra Halenahalli Somashekaraiah
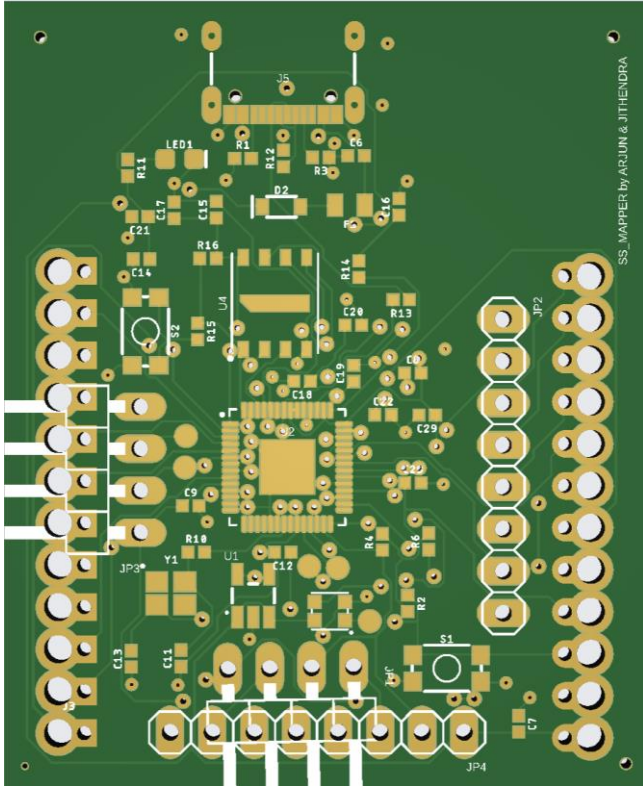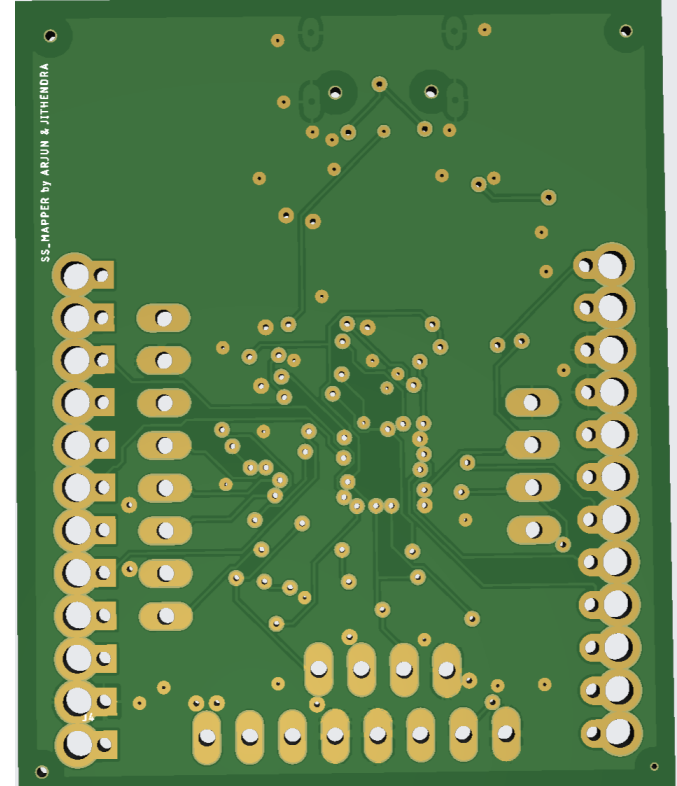
Block Diagram:

Hardware Design:

TOP VIEW

BOTTOM VIEW

Capabilities:

- DISTANCE MODE
- RECTANGLULAR AREA
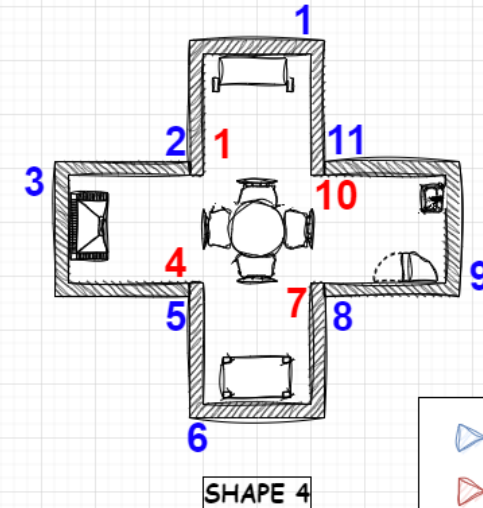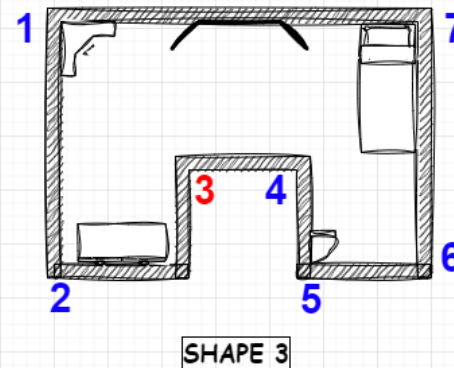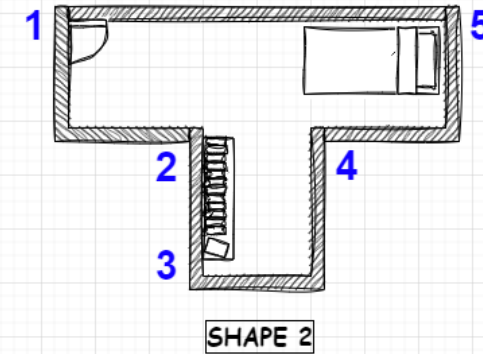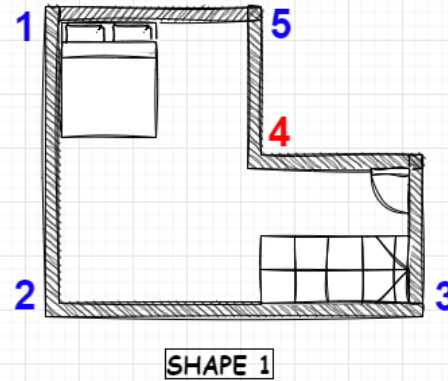- CIRCULAR AREA
- TRAINGULAR AREA
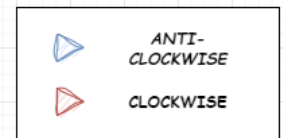
Key Learning and Issues:

- Software stack development without dedicated environment from chip vendor (Using VS code)
- Sensor interfacing
- Communication protocols : SPI, I2C
- Troubleshooting and debugging
- UI designing with minimum resources
- Schematics and Board design
- Component selection
- Task management

- Sensor calibration
- Mismatch in SPI frequency requirement
- Slot type mismatch for USB type C
- Bad LED selection, (Moisture sensitive as per datasheet)
- More vias, less focus on signal integrity

Thank you!