B.A.T.F.I.N.K

Brilliant **A**utonomous **T**racking **F**ast **I**ntelligent **N**avigation **K**inetic

Autonomous maze-solving robot

Github.com/jackfitton112/batfink

TASK

Design and manufacture a maze-solving robot

The Task was presented to design and manufacture a maze solving robot that acts autonomously with key aspects being placed on efficient use of material and quality code

Design Stage

Concept

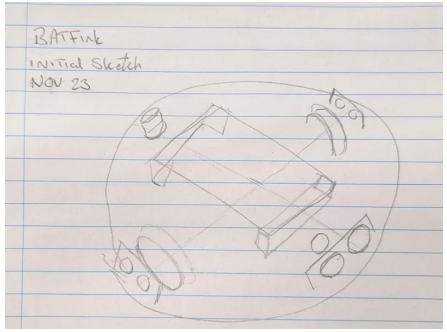
The initial concept drawings outlined the project

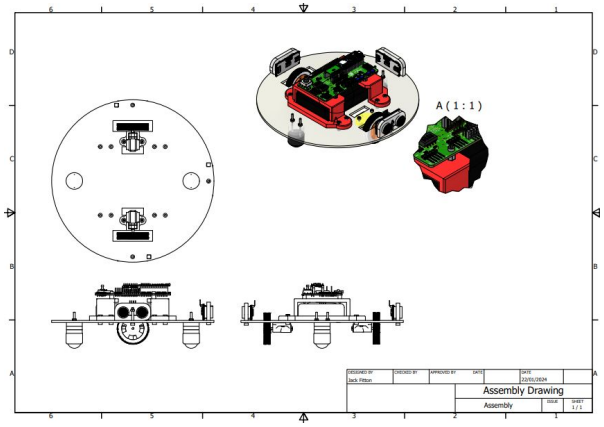
CAD

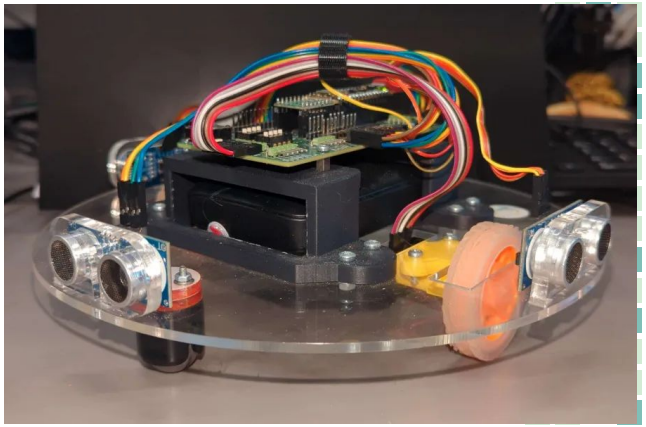
CAD (Computer Aided Design) models were created from the initial design

CAM

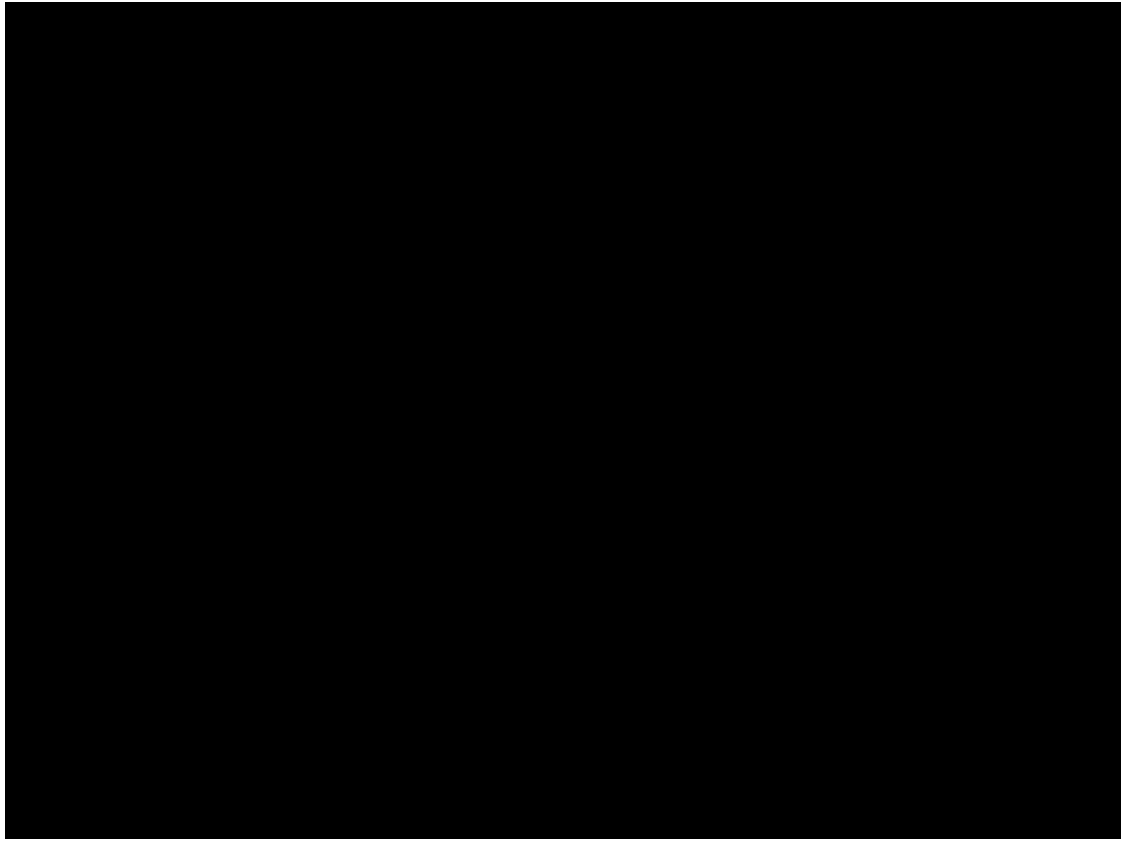
CAM (Computer Aided Manufacturing) processes such as 3D printing and laser cutting were used to create the robot







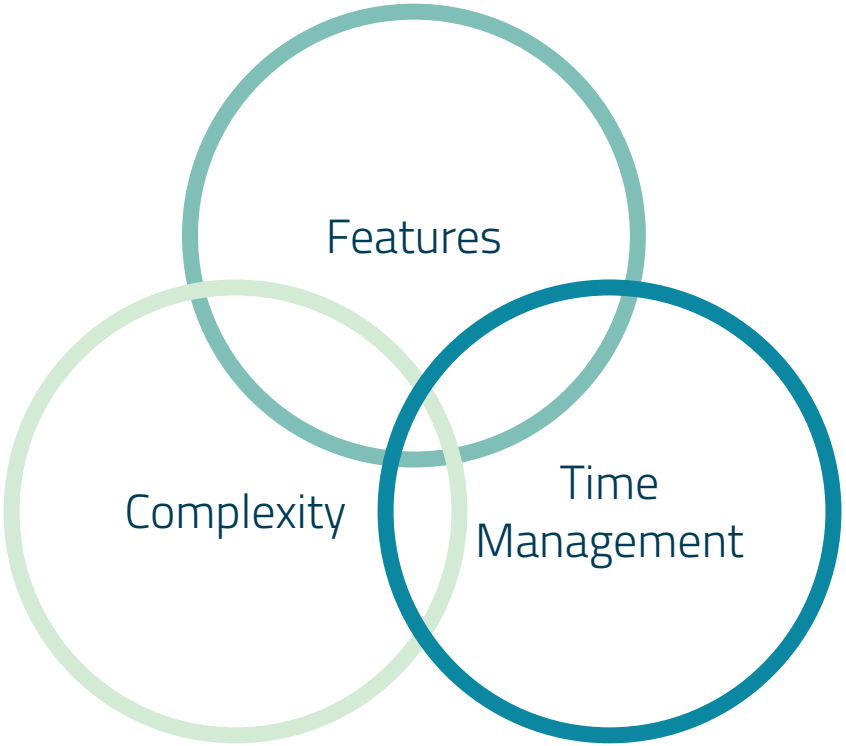
Assembly



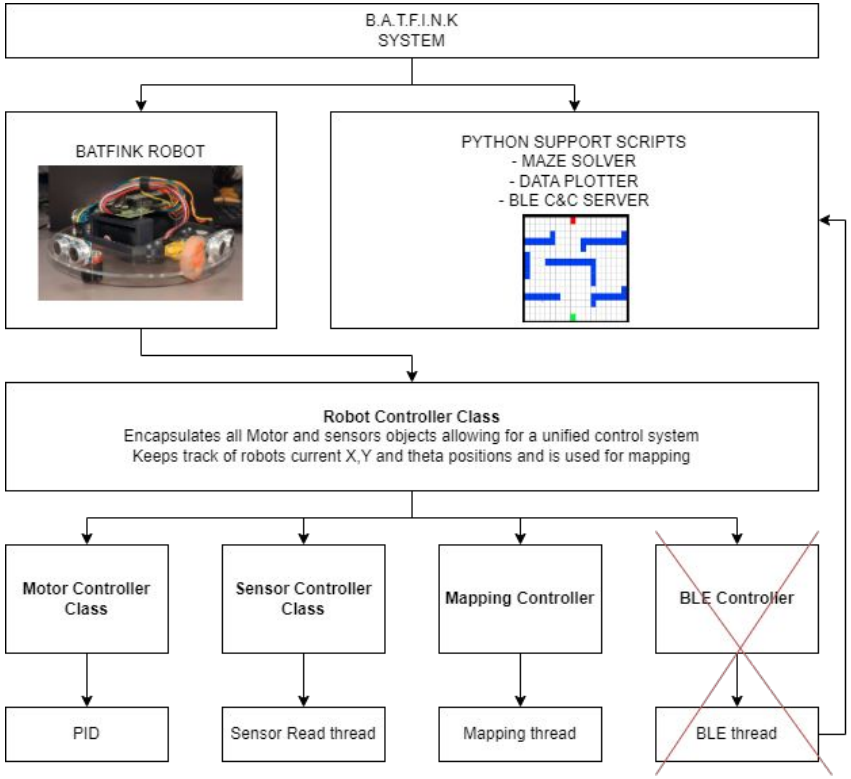
Software planning

The next stage was to plan the software for the robot

A balancing act



Software Structure



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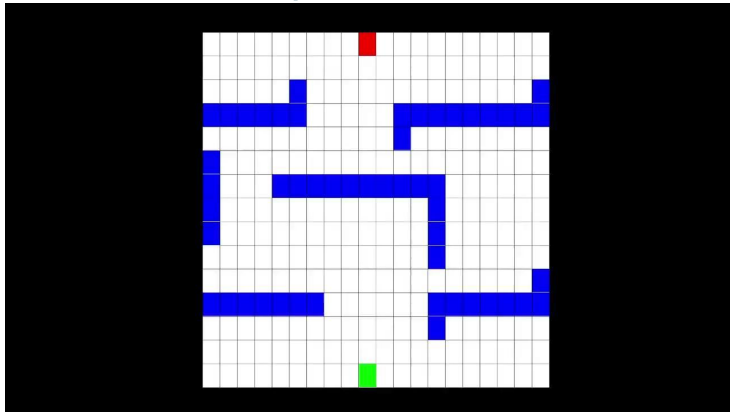
Lines of code later…

Navigation

Maze Solving

Dykstra's



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Depth First

Conclusions

- Don’t rely on BLE
- Stream Map and sensor data over Serial
- Integrate Python Mapping solutions to robot
- Don’t use Usonic, Not fast enough

THANK YOU!

Any questions?

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