

F.I.N.N.

THE

ROBOT

BUTLER

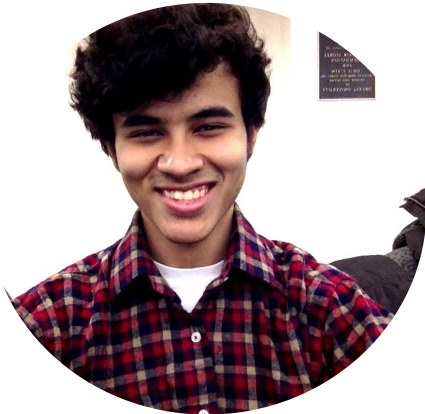
We are Team 82



Ricky Mangerie
Project Manager
Head of Planning



Matt Brower
Support Manager
Head of Assembly



Samridh Prasad
Developer
Test Coordinator



Quinlan Morgheim
Developer
Issues Manager

Project Request

- Our project, named “F.I.N.N. (Fully-integrated Nomadic Neotech) the Robot Butler”, is a robot built using Raspberry Pi.
- The major components of the setup are :
 - Raspberry Pi
 - Robot arm
 - Chassis
 - Wii remote

WALL·E



Original Scope

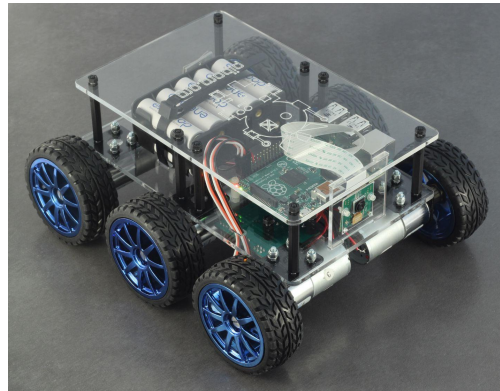
- Our original scope was to create a fully automated robot which could retrieve objects on a workstation.
- Our finished prototype for CI 103 is a user-controlled robot to retrieve objects.
- In the end, we ended up achieving all of the updated goals we set forth for the end of the CI cycle.

WALL·E

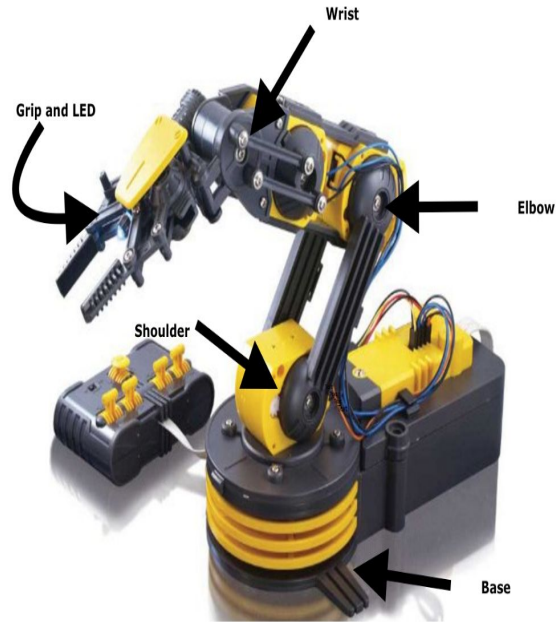


The Components

- Raspberry Pi (with a Python compiler, Python pip, Pyusb and Cwiid installed)
- Nintendo Wii remote and nunchuck
- Bluetooth module
- OWI-535 Robotic Arm Edge
- USB extension kit
- DiddyBorg Chassis



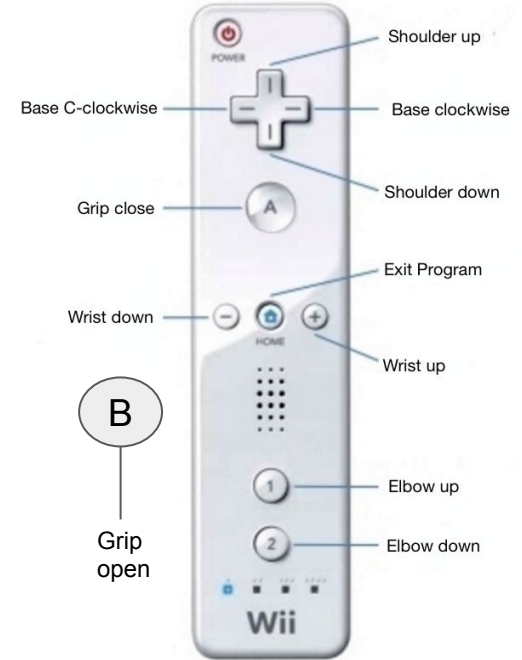
Layout



Slow
down

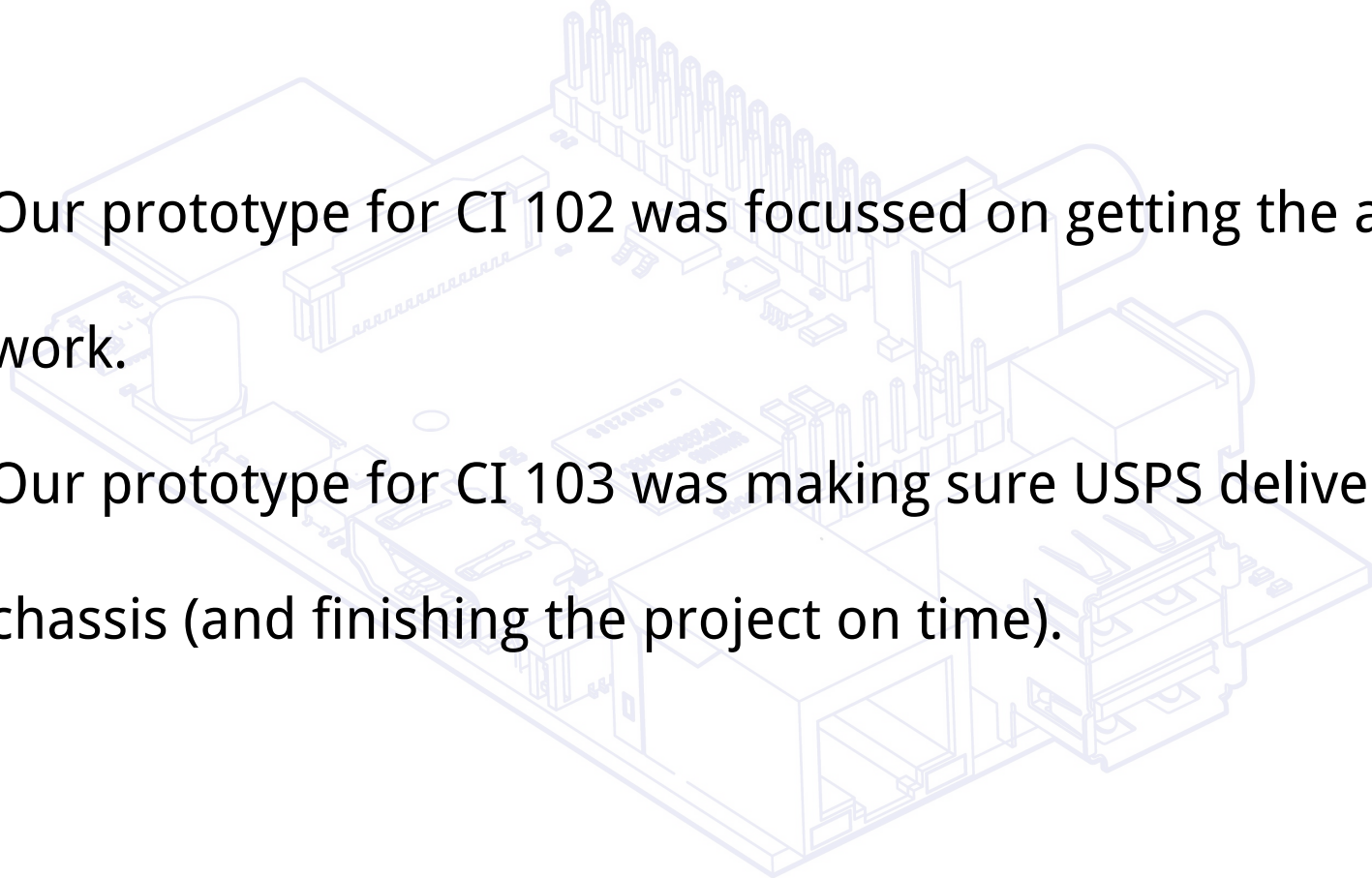


Speed
up



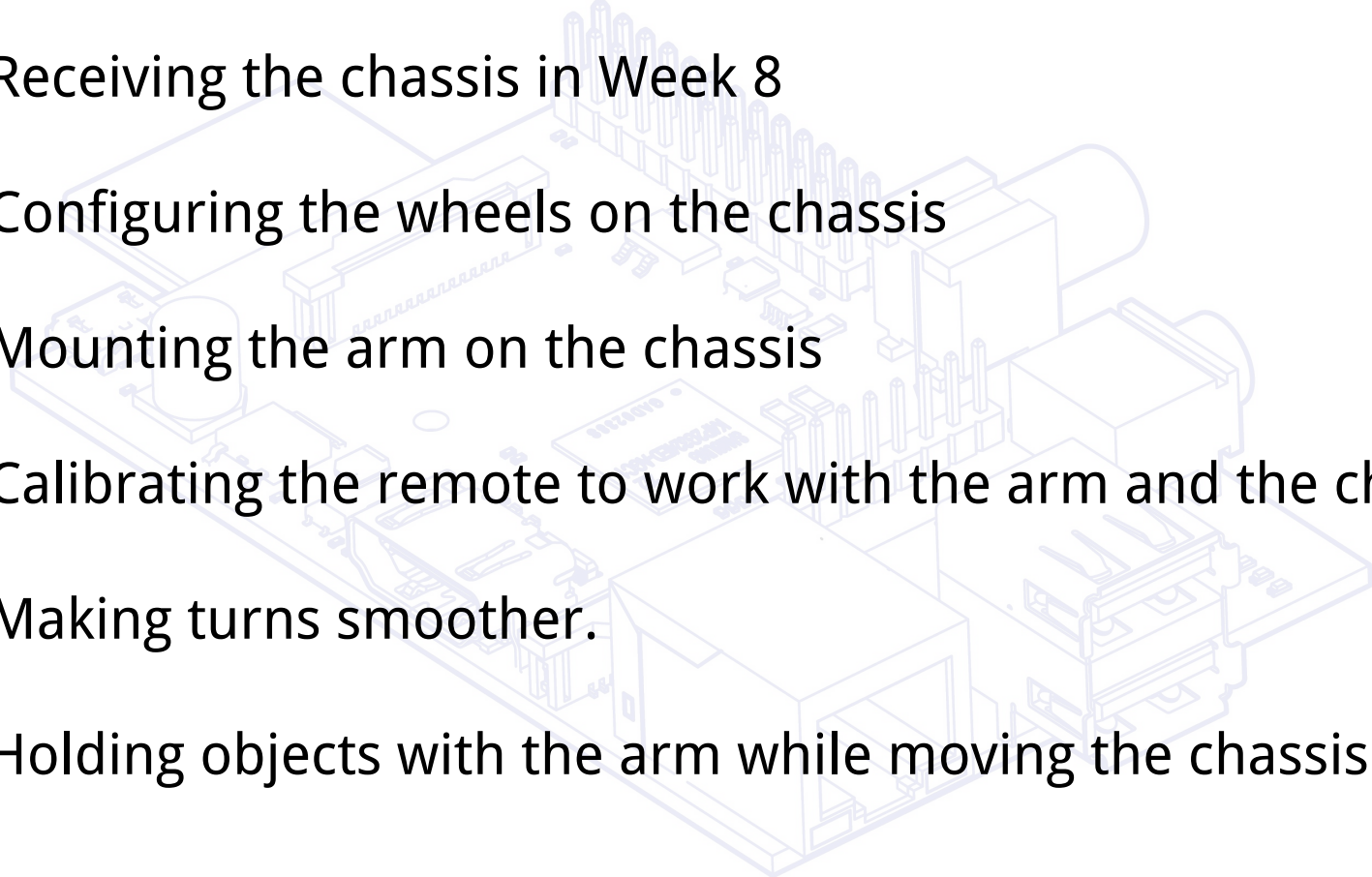
The Journey

- Our prototype for CI 102 was focussed on getting the arm to work.
- Our prototype for CI 103 was making sure USPS delivered our chassis (and finishing the project on time).



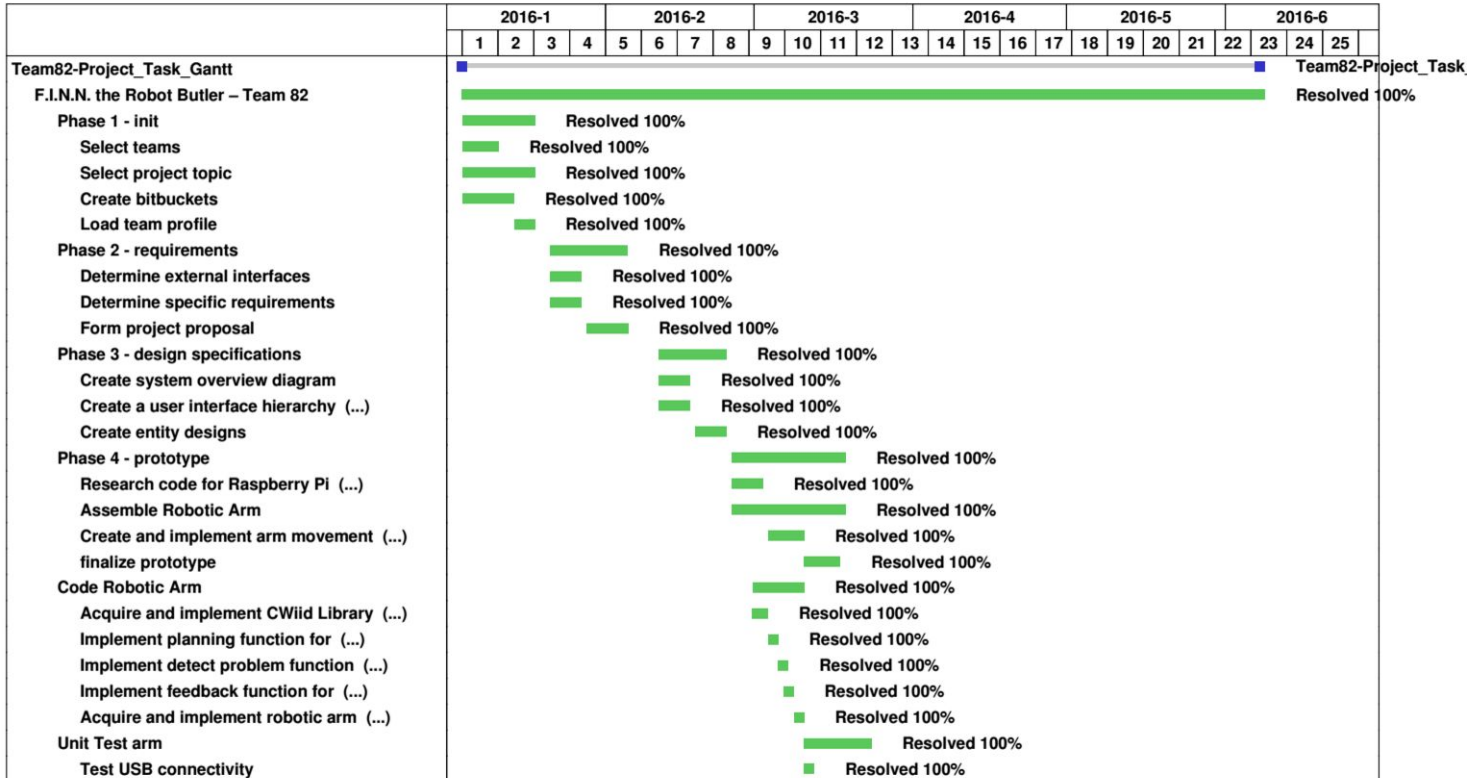
Key challenges faced

- Receiving the chassis in Week 8
- Configuring the wheels on the chassis
- Mounting the arm on the chassis
- Calibrating the remote to work with the arm and the chassis.
- Making turns smoother.
- Holding objects with the arm while moving the chassis.

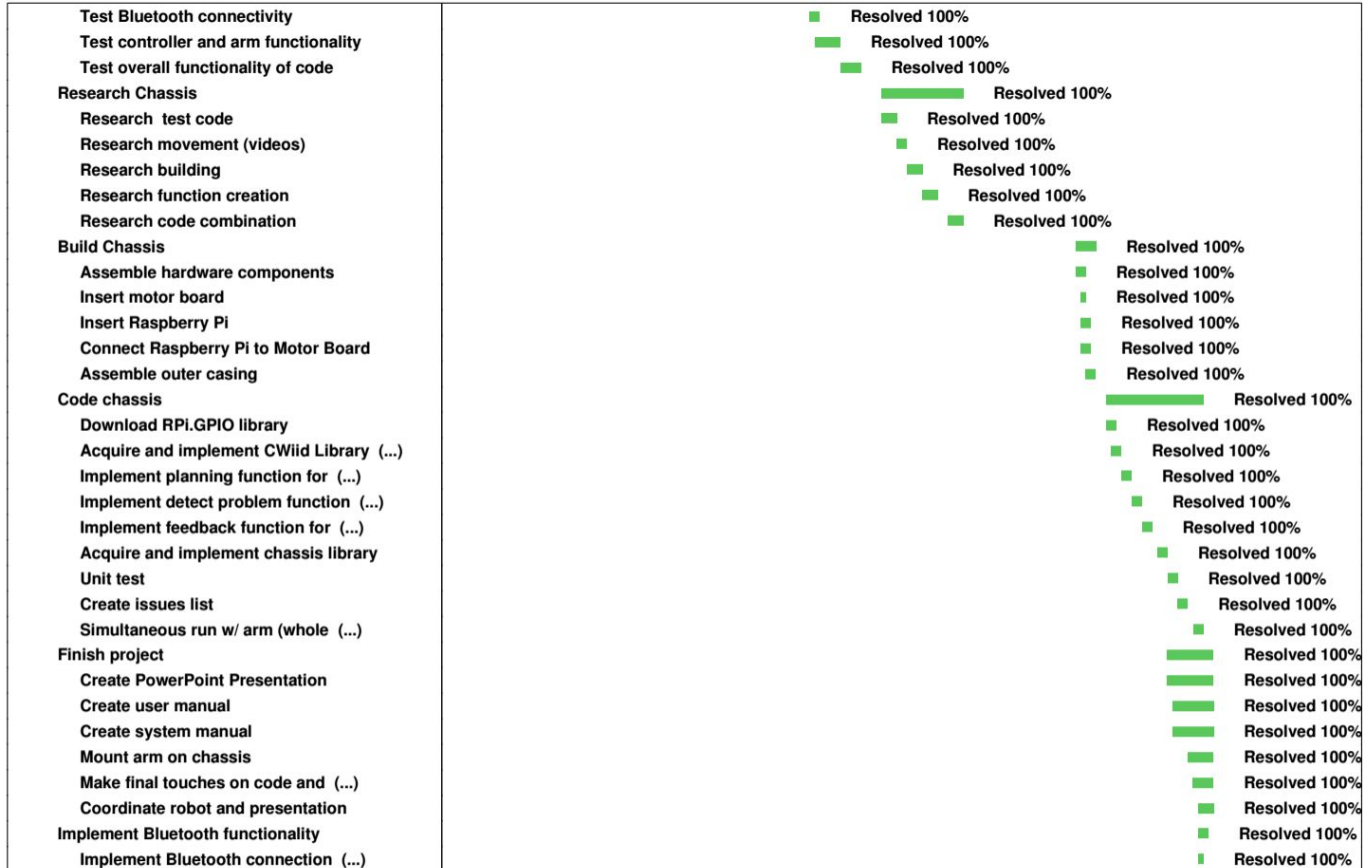


The Gantt Chart

Team82-Project_Task_Gantt



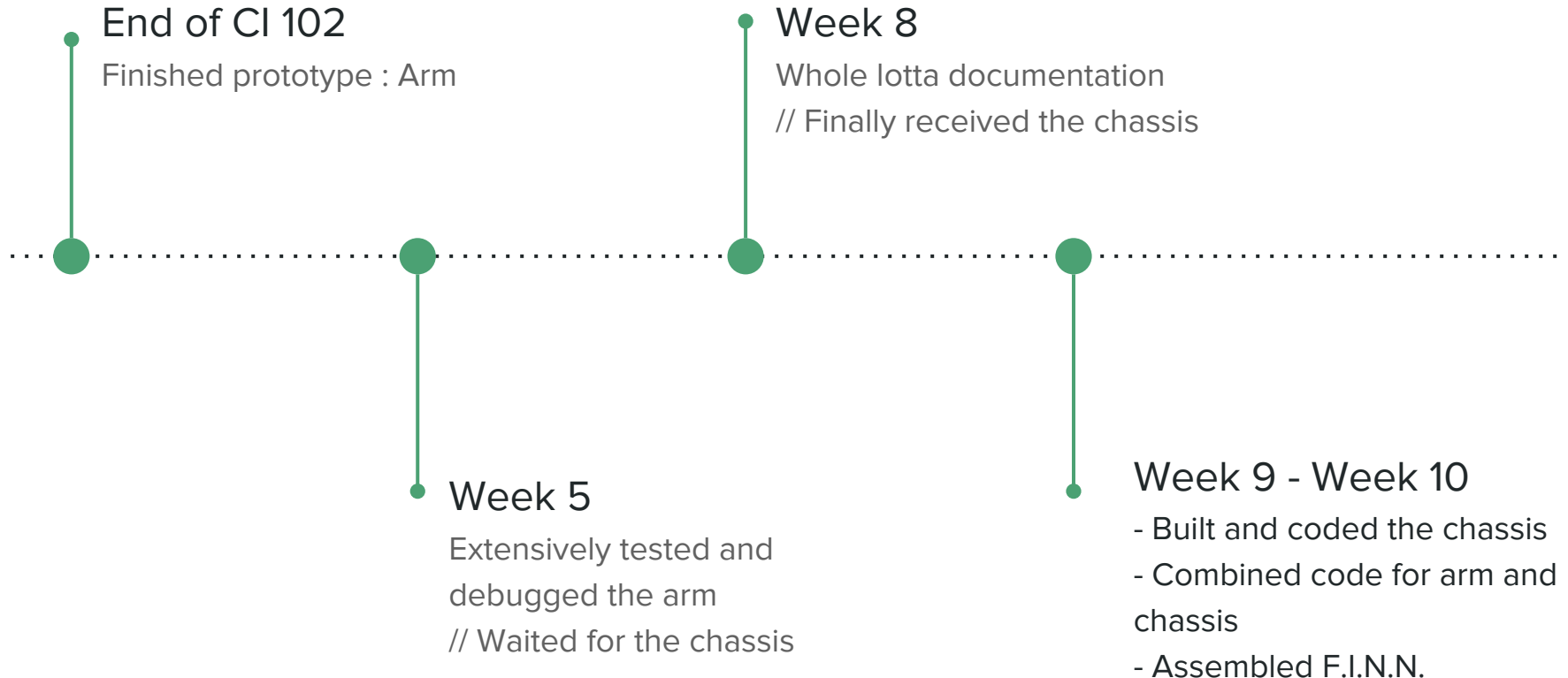
The Gantt Chart



The Gantt Chart



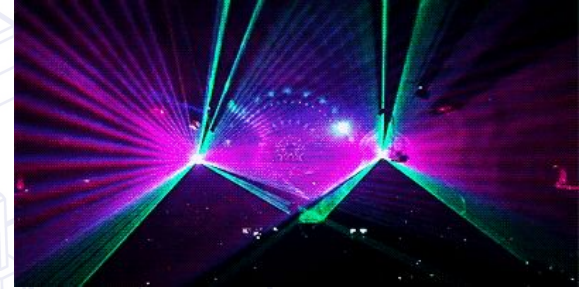
Timeline



Beyond CI 103

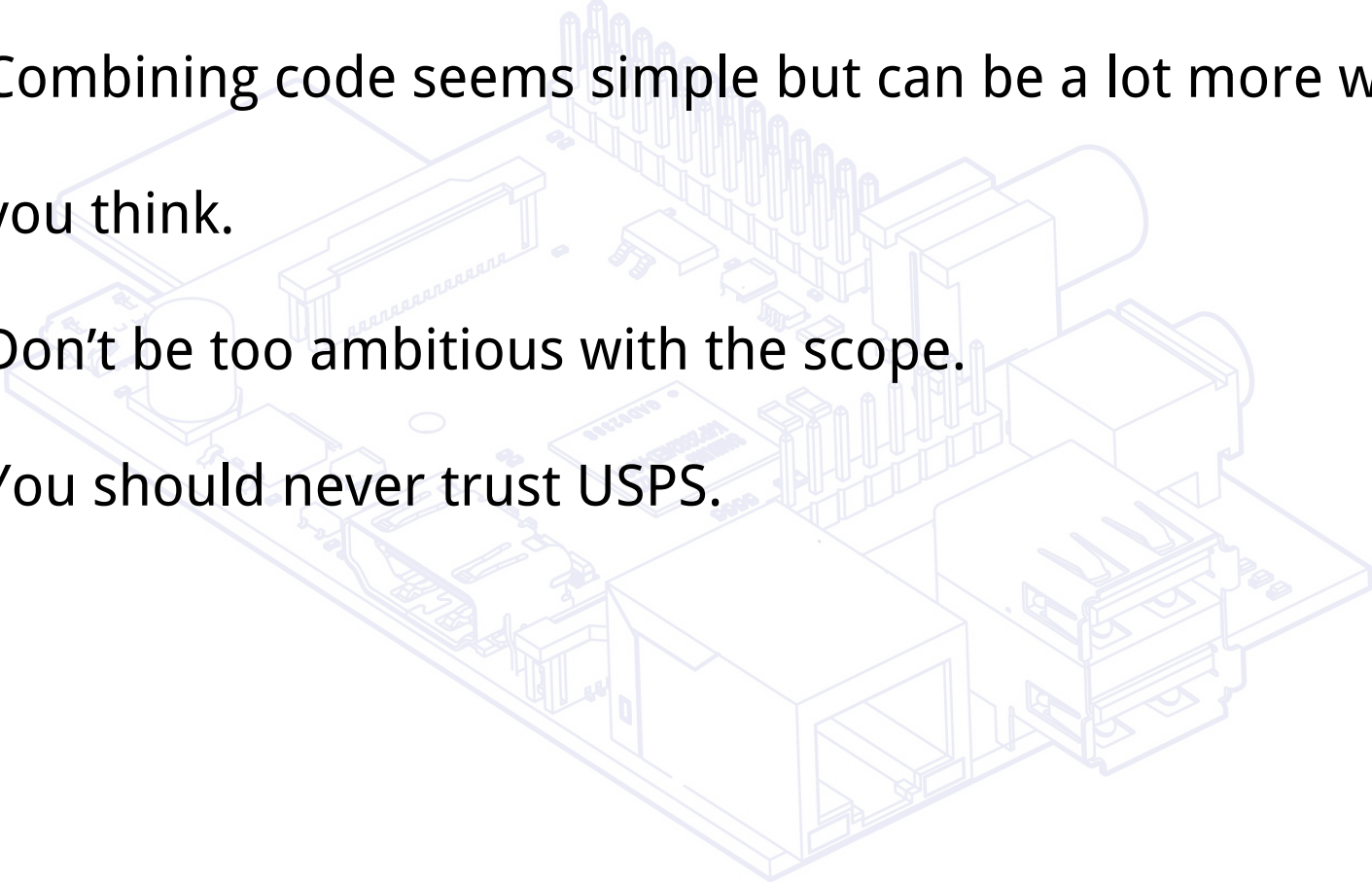
- Future Endeavors which we couldn't fit in the scope of CI 103

- Camera
- Autonomous Movement
- Sounds
- Pretty lights

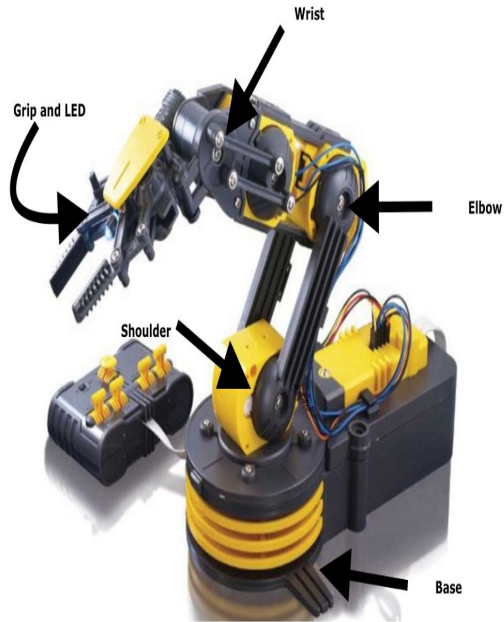


Lessons Learned

- Combining code seems simple but can be a lot more work than you think.
- Don't be too ambitious with the scope.
- You should never trust USPS.



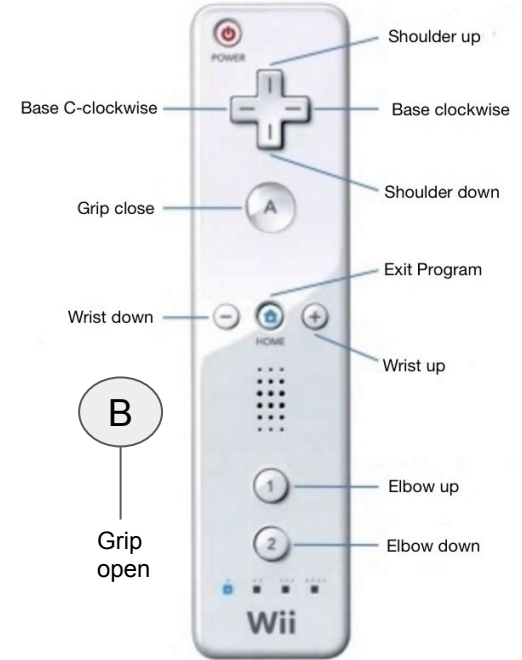
Demo



Slow
down



Speed
up



Emergency Demo



Works Cited

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<<https://dejareviewer.files.wordpress.com/2011/07/broken-eye1.jpg>>

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