DESIGN SPECIFICATION REVIEW

Team 59

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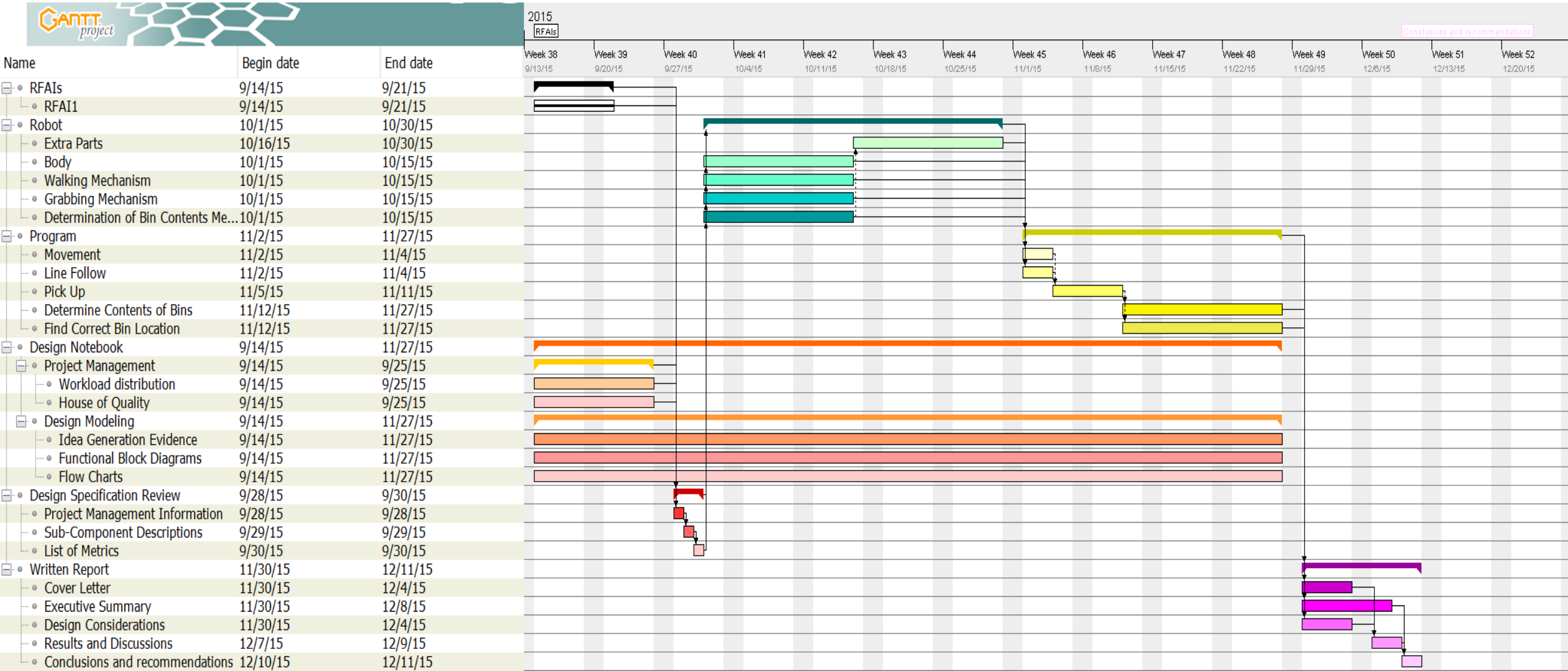
Project Management Information

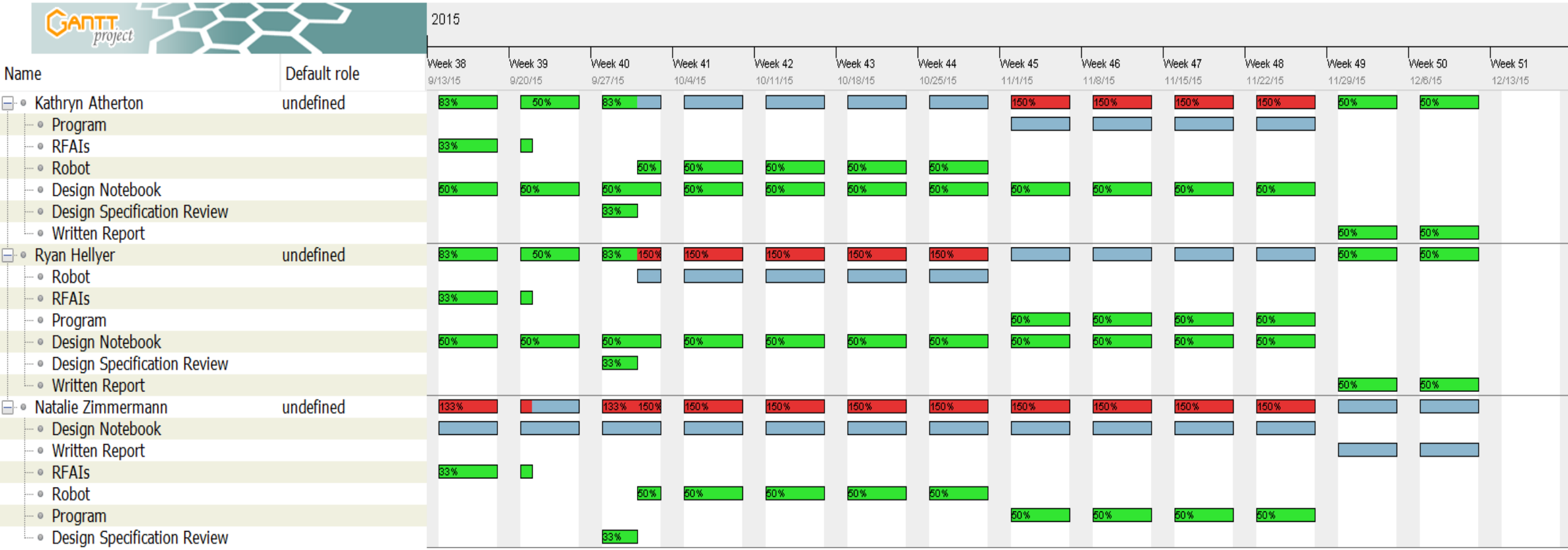
- Gantt Chart



Name	Begin date	End date
RFAIs	9/14/15	9/21/15
RFAI1	9/14/15	9/21/15
Robot	10/1/15	10/30/15
Extra Parts	10/16/15	10/30/15
Body	10/1/15	10/15/15
Walking Mechanism	10/1/15	10/15/15
Grabbing Mechanism	10/1/15	10/15/15
Determination of Bin Contents Me...	10/1/15	10/15/15
Program	11/2/15	11/27/15
Movement	11/2/15	11/4/15
Line Follow	11/2/15	11/4/15
Pick Up	11/5/15	11/11/15
Determine Contents of Bins	11/12/15	11/27/15
Find Correct Bin Location	11/12/15	11/27/15
Design Notebook	9/14/15	11/27/15
Project Management	9/14/15	9/25/15
Workload distribution	9/14/15	9/25/15
House of Quality	9/14/15	9/25/15
Design Modeling	9/14/15	11/27/15
Idea Generation Evidence	9/14/15	11/27/15
Functional Block Diagrams	9/14/15	11/27/15
Flow Charts	9/14/15	11/27/15
Design Specification Review	9/28/15	9/30/15
Project Management Information	9/28/15	9/28/15
Sub-Component Descriptions	9/29/15	9/29/15
List of Metrics	9/30/15	9/30/15
Written Report	11/30/15	12/11/15
Cover Letter	11/30/15	12/4/15
Executive Summary	11/30/15	12/8/15
Design Considerations	11/30/15	12/4/15
Results and Discussions	12/7/15	12/9/15
Conclusions and recommendations	12/10/15	12/11/15

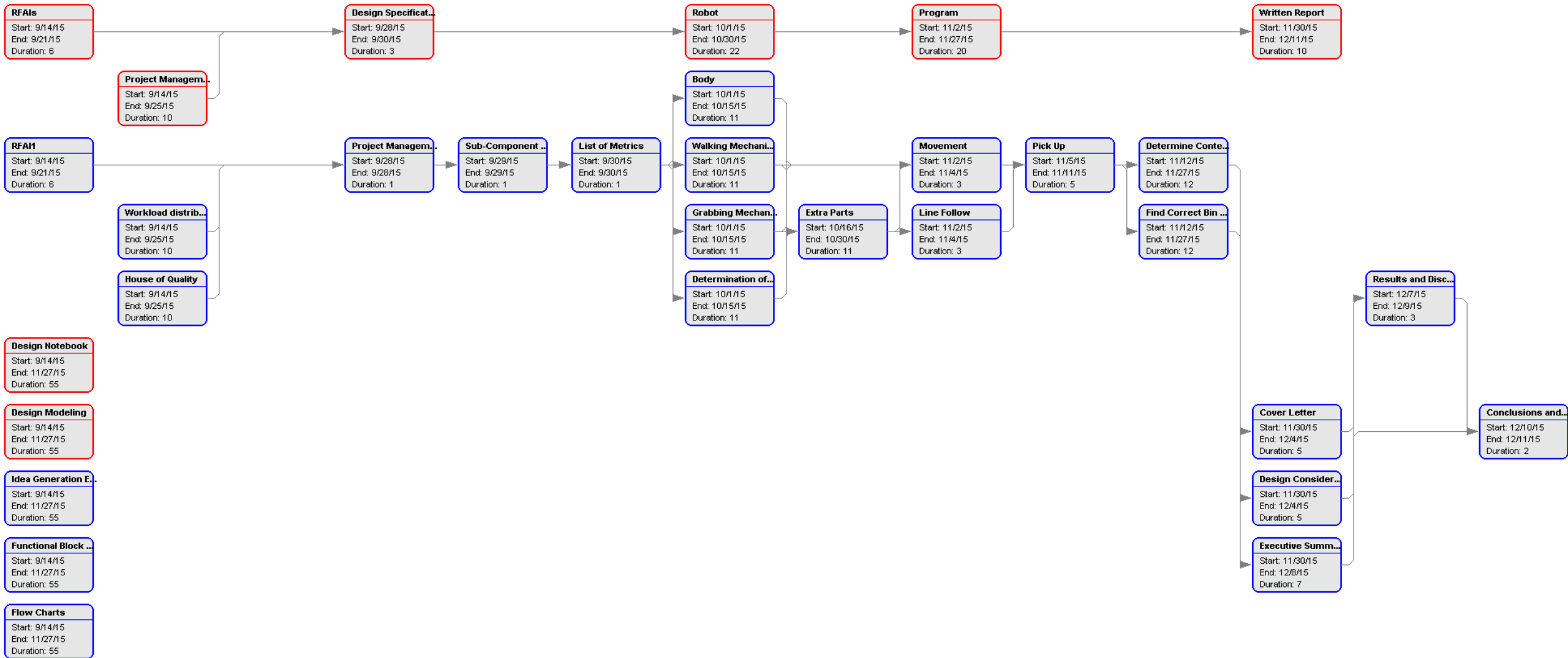
Project Management

- Workload Distribution



Project Management

- Work-Breakdown Structure



Sub-Components of Robot

- Chassis
  - Function: to hold the robot sub-components together
  - Features: compact, efficient use of materials, sturdy
- Locomotion Mechanism
  - Function: to move the robot around the closed-loop path
  - Features: is not a wheel, able to go over uneven terrain, move robot at least 0.3 feet per second
- Grabbing Mechanism
  - Function: to pick up bins of shredded material
  - Features: able to grasp bin, quickly picks up bins, able to hold the maximum weight of the bins
- Bin Content Determination Mechanism
  - Function: to autonomously determine the contents of the bin of shredded material
  - Features: accurate and quick in determination, autonomous
- Bin Storage
  - Function: to hold the bins of shredded material while the robot moves from the shredder hopper to the final bin location
  - Features: able to store bins without tipping/spilling materials,

Metrics

Sub-Component	Feature/Function	Technical Need	Technical Requirement	Target Value
Chassis	Sturdy	Weight supported	Can support at least weight of heaviest bin	Can support twice the weight of the heaviest bin
	Compact	Dimensions of chassis	Can fit in shipping container	Fits in shipping container with room to turn around
Locomotion Mechanism	Able to go over uneven terrain	Height able to step over	Can step over bump of 0.5 inches	Can step over bump of 0.75 inches
	Move quickly from shredder hopper to final bin location	Speed	At least 0.3 feet per second	0.6 feet per second
Grabbing Mechanism	Grasp bin	Dimensions able to grasp	Maximum dimensions of bin	Maximum dimensions of bin
		Weight able to lift	Maximum weight of bin	Twice maximum weight of bin
		Time to pick up	Less than 3 seconds	Less than 1 second
Bin Content Determination Mechanism	Able to autonomously determine contents of bin	Accuracy of determination	Correct 75% of time	Correct 100% of time
	Quick in determination	Time	Less than 5 seconds	1 second
Bin Storage	Stores without spilling contents of bin/tipping robot	Amount of spillage	Less than 20% of bin contents	0% of bin contents