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## PROJECT 2: TIMELINE

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**Project Deadlines:**

- Task Allocation Report and Timeline on 7<sup>th</sup> Mar '03
- Demo on 27<sup>th</sup> and 28<sup>th</sup> Mar '03
- Robot design documentation on 31<sup>st</sup> Mar '03
- Code Documentation on 31<sup>st</sup> Mar '03.
- Final Report due on 31<sup>st</sup> Feb.'03.
- Presentation on 31<sup>st</sup> Mar and 2<sup>nd</sup> Apr '03.

**Milestones:**

<b>Design</b>	Team Design Meeting	Monday, 3 <sup>th</sup> Mar '03
<b>Hardware</b>	Physical Prototype Constructed	Friday, 7 <sup>th</sup> Mar '03
	Working Prototype	Tuesday, 11 <sup>th</sup> Mar '03
	Sensor Placement	Wednesday, 12 <sup>th</sup> Feb '03
<b>Software</b>	Define Behaviors	Saturday, 8 <sup>th</sup> Mar '03
	Detect Light Source	Monday, 10 <sup>th</sup> Mar '03
	Drive to Light Source	Monday, 10 <sup>th</sup> Mar '03
	Turn Off Light	Wednesday, 12 <sup>th</sup> Mar '03
	Detect Wheel Stop	Wednesday, 12 <sup>th</sup> Mar '03
	Avoid Tall Obstacles	Friday, 14 <sup>th</sup> Mar '03
	Team code review	Friday, 14 <sup>th</sup> Mar '03
	Finish coding	Friday, 14 <sup>th</sup> Mar '03
<b>Testing</b>	Test Working Prototype	Wednesday, 12 <sup>th</sup> Mar '03
	Begin Testing	Friday, 14 <sup>th</sup> Mar '03
	Finish Testing	Monday, 24 <sup>th</sup> Mar '03
<b>Report and Presentation</b>	Start compilation of report	Wednesday, 26 <sup>th</sup> Mar '03
	Finish report	Friday, 28 <sup>th</sup> Mar '03

**Important Milestone Descriptions:**

**Physical Prototype** – the basic ingredient list for the prototype is three-fold (a four-wheeled chassis capable of turning in its own space, a turret capable of rotating 180°, and a cradle for the Handy Board). This is done to verify that the ideas decided upon in the design meeting are actually doable.

**Working Prototype** – the working prototype will be a simple integration of the physical prototype and the “detect light source” behavior.

**Sensor Placement** – the Hardware group will research the range of the ET range finding sensors and the order of magnitude difference between the light source and ambient light. Based on these values, the sensors will be placed after the working prototype has been tested and the validity of it confirmed.

**Define Behaviors** – the Software group will determine which behaviors the robot will use and the order of inhibition.

**Detect Light Source** – this milestone will be complete when the robot is able to detect a light source in a similar environment to that of the testing environment.

**Drive to Light Source** – this milestone adds to the previous milestone and will be complete when the robot detects a light source and drives toward it.

Group 10

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Brent Eskridge  
Klo Utley  
Tony Lopez

**Turn Off Light** – this milestone adds to the previous two milestones and will be complete when the robot is able to find a light source, drive to it, and turn it off.

**Detect Wheel Stop** – this milestone will be used to determine whether one of three wheel stop cases has occurred: the robot has run into a wall, it has run into a rock, or it has run into the power supply of the light source. This milestone will be complete when the robot can recover from the above wheel stop cases and turn off the light source.

**Avoid Tall Obstacles** – this milestone will be complete when the robot is able to navigate around the tall obstacles. At this point, the software will be finished.

**Code Review** – the code review will consist of the whole group looking over the code together, searching for errors, and making sure everyone has a working knowledge of how the code works.

**Working Prototype Testing** – the purpose of testing the working prototype is to verify that the design ideas of the turret and the Handy Board placement will work.

**Testing** – this milestone will be complete when the robot is able to perform all of the desired tasks.

**Report/Presentation** – this milestone will be complete when the report is finished and the presentation slides are made.

### **Fallback Plan:**

All milestone estimates are conservative in nature to account for any reasonable, unforeseen problems that may arise. Also, all milestone completion dates are scheduled 2-3 days ahead of the specified deadline. This provides extra padding into the schedule, should it be required. In particular, the testing phase will be the only active phase during the week of Spring Break. In the event hardware and software have not completed all of their milestones, the first part of the week will be used for completing these milestones.

In an effort to minimize unforeseen problems, two team members have been assigned to each milestone. The primary is responsible for completing each milestone and the secondary is responsible for keeping up to date with the current state of the milestone and being ready to step in to assist if required.

Group 10

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 Klo Utley  
 Tony Lopez

		3	4	5	6	7	8	9	10	11	12	13	14	15-23	24	25	26	27	28	29	30	31	1	2
<b>Design</b>																								
Design Meeting	Team	█																						
<b>Hardware</b>																								
Physical Prototype	Tony/Amit		█	█	█	█	█																	
Working Prototype	Tony/Amit						█	█	█	█	█													
Sensor Placement	Tony/Amit									█	█	█												
<b>Software</b>																								
Define Behaviors	Klo/Brent		█	█	█	█	█	█																
Detect Light Source	Klo/Brent							█	█	█														
Drive to Light Source	Klo/Brent							█	█	█														
Turn Off Light	Klo/Brent									█	█	█												
Detect Wheel Stop	Klo/Brent									█	█	█												
Avoid Tall Obstacles	Klo/Brent											█	█											
Code Review	Team											█	█											
<b>Testing</b>																								
Test Working Prototype	Brent/Tony									█	█	█												
Test Finished Robot	Brent/Tony													█	█	█	█							
<b>Management</b>																								
Task Allocation Report	Klo		█	█	█	█	█																	
Timeline/Milestones	Klo		█	█	█	█	█																	
Final Report	Amit/Klo																█	█	█	█				
Presentation Slides	Amit																█	█	█	█				
<b>Demo/Presentation</b>																								
Demonstrations	Team																█	█	█	█				
Presentation	Team																				█	█	█	