Mar 7th, 2003

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Team 8

Milestones and Fallback Plan

This document describes the important milestones that the project is divided into and also the deadlines for each milestone. At the end it also describes our fallback plan which will be instituted if any of the milestones cannot be completed in time. We followed the same format for this document that we used for Project – 1, since there are very few changes in milestones that are to be achieved except the change in the deadlines and fall back plan.

Milestones:

- **Team Organization and Task Allocation Completed - March 6th**

  At this point we have decided the organization for our team structure and distributed all task assignments evenly among the team members. We have also come to a consensus on the milestones and fall back plan, the result of which is this document.

- **Hardware Design Completed – March 9th**

  At this point we have completed an initial design for the hardware of the robot. This includes basic structure, location of motors and sensors, and a brief description of the rationale behind the design as well as an explanation of design decision. As we discussed about the strategy before the project is posted on the web, we think this deadline is reachable.

- **Software Design and Pseudo code Completed – March 10th**

  At this point we have completed an initial design for the code or "brain" of the robot. This includes identifying the proper approach (potential filed or schema theory or reactive paradigm), various behaviors, inputs and outputs of those behaviors. This may also include writing the pseudo code or rough outline of the code in Interactive C for the identified behaviors and also producing flowcharts. Since we started thinking about this task also before the project is posted in the web, we think we can complete the task with in the deadline.

- **Assembly Completed – March 11th**

  At this point we have completed the actual physical assembly of the robot and have loaded simple test code to ensure proper functioning of all sensors, bumpers, motors, and other moving parts.

- **Coding and Unit Testing Completed – March 16th**

  At this point we have completed the coding and have tested it for soundness and proper operation. This also includes loading the code into the robot and ensuring that the software interacts correctly with the robot sensors, bumpers, motors, etc. This does not

include “field testing” the robot to see if it can properly perform the task as a whole it was designed for.

- **System Testing Completed – March 21st**

  At this point we have ensured that the robot does indeed perform the task it was designed for and that any expected contingencies are properly handled by the robot. Passing this milestone means that the robot is ready for demonstration. This deadline is chosen keeping in view that we are provided an option of scheduling lab tests on March 21st and 22nd.

- **In-Class Demonstration – Mar 27th and March 28th**

  At this point we have given a demonstration of the robot in its actual operating environment. We have also completed the final report on the project (as described in the guidelines) well before the due date so that there will be time for all team members to review it thoroughly before submission.

- **Final Documentation Completed – March 28th**

  This includes hardware, software documentation and also the preparation of power point presentation that we will be giving either on March 31st or April 2nd.

- **Oral Presentation Completed – March 31st or April 2nd**

  At this point we have completed the oral presentation consisting of a discussion of our team organization and task allocation, hardware and software designs.

Fallback Plan:

Our fallback plan still includes a buffer zone at the end of the project timeline which gives us extra days after the final testing is scheduled to be completed[1] for shifting the timeline in case of missed milestones. If, for some reason, we go over schedule in reaching any milestones we will shift remaining milestones by the amount over until we have used up the slack in the timeline. In the unlikely event that we use up all of our slack, we will then begin compressing the testing phases with the idea that careful, well thought out design and coding should require less testing than rushed construction of the hardware or software.

Since our team is organized into a software team and hardware team, the deadline for any task belonging to a particular team will be taken care of by that team itself. But if they are stuck with any problem for more than 2 days over schedule, then the other team members will try to help solve the problem to keep the project moving. Continuous communication and interaction between teams is required for this to be successful. This also simplifies the job of identifying who is behind the schedule or which task is behind the deadline and taking immediate actions accordingly.

We also took into consideration the fact that some of our group members may or may not be present during spring break (all will be contactable, however). So, we prepared the deadlines so that we will complete most of the tasks before the spring break starts. But at least one of our team members will be available for performing the system testing. Even if some thing goes wrong, we have enough buffer time to consult with the other team members and complete the project.

[1] Five extra days before the in-class demonstration, and nine extra days before the final report/oral presentation is due.