Deliverable E
Project Schedule and Cost Estimate

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Table of contents

List of Tables

Abstract

This report analyzes the estimated cost of each component for the three prototypes that will be produced to address the issues of the customer. Each prototype consists of 4 general steps including the software design, hardware design, ‘crash’ testing and customer feedback on the prototype. Following the feedback, the two following prototypes will also include an analytical process by the entire group to address any issues or suggestions by the customers brought to light by the prototype presented. Overall, the cost analysis estimates for a motion sensor and a camera for each subsystem, with an additional Arduino board and jump fire used for the overall system. However, the analysis does not account for any material needed to mount the camera and motion sensor.

Prototyping Schedule

Table 1 prototyping schedule

Prototyping number	Task	Estimated Duration	Person responsible
I	Software design and coding (dashboard)	7 days	Zehua and Mo
I	Hardware design and coding(Arduino, sensor, camera, IP)	7 days	Andy and Brenden
I	Implement and test	2 days	Everyone
I	Get customer Feedback	\	Everyone
Milestone: Submit Documents “Prototyping I and Customer Feedback” Due Date: Oct 31st			
II	Analyze Feedback and address issues	\	Everyone
II	Software design and coding (dashboard)	5 days	Andy and mo
II	Hardware design and coding(Arduino, sensor, camera, IP)	5 days	Kevin and Zehua
II	Implement and test	2 days	Everyone
II	Get customer feedback	\	Everyone
Milestone: Submit Documents “Prototyping II and Customer Feedback” Due Date: Nov 7th			
III	Software design and coding (dashboard)	5 days	Zehua and Mo
III	Hardware design and coding(Arduino, sensor, camera, IP)	5 days	Andy and Brenden
III	Implement and test	2 days if	Kevin
III	Get customer	\	Kevin

	feedback		
Milestone: Submit Documents “Prototyping III and Customer Feedback” Due Date: Nov 14th			
Final Presentation of Prototype			

Gantt Chart

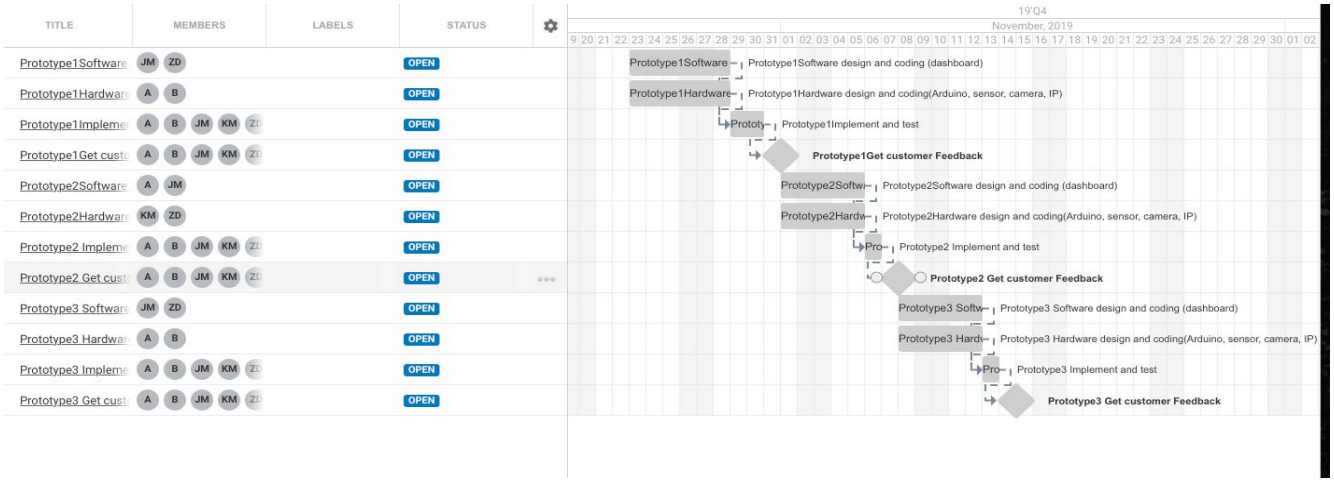

Figure 1 Gantt chart for project prototyping schedule

Project Risks and Associated Contingency Plans

Table 2 Project risks and associated contingency plans

Possible risk	Associated Contingency Plans
The camera or motion sensor will not mount onto the frame of the 3D printer	Use nails to fix them instead of double sided tape or; Build a stand that can be placed next to the 3D printer that the sensor or camera can be placed on to
The system may not work when there is no wireless internet.	Make an ethernet connection from the arduino board to the central computer

The Camera fails to send a feed to the dashboard	Take a signal from the motion sensor that will also display a visible signal within the dashboard
The Motion Sensor fails to detect or send a feed to the dashboard	Take a live feed from the camera and display it on the dashboard Display on the dashboard a visible signal that tells the staff that a motion sensor is not working

Cost Estimate

Table 3 Project Cost Estimate

Name of the item	amount	Price per one unit (CAD)	Price (CAD)
Motion sensor	2	11.5	11.5*2=23
OR/AND			
Camera	2	25	25*2=50
IP board	1	12	12
Jump wire	Several	\	No cost
Arduino board	1	\	No cost
Low Estimate Cost (CAD)			$39.55
Mid Estimate Cost (CAD)			$70.06
High Cost Estimate (CAD)			$97.18

Does not account for materials and tools needed to assemble the system or mount the system to the 3D printers

Conclusion

In summary, the project is separated into four components for each of the three prototypes. Each of these components have been assigned to members of the project team and are expected to be completed by the due dates. These components and prototypes have been organized into a Gantt Chart which can be seen above in *Figure 1*. This is the simplified Gantt Chart which displays the critical path; the list of steps in chronological order which must be completed in order to finish the project. Following, the report highlights the greatest obstacles to having a functional system by the due date; but also lists the tentative contingencies. Finally the cost estimate covers the components needed to create the subsystem that has been previously ideated. The cost estimate leaves space in the budget for any of the possible materials that may be needed to mount the motion sensor and camera. However, it is possible to print these components in a 3D printer for free. Therefore it has been omitted from the estimate, since the additional cost will not put the group over budget.

Bibliography

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