Project Status Report

Project Name: PCB pick and place

Team Name: JFL

Project Manager: Robin Pottathuparambil

Team Members: Jailine Contreras Marquez, Fernando Zavala-Ortiz, Lap Nguyen

Report Date: 10/12/23

Reporting Period: 9/14/23   to 10/12/23

Management Summary

Defined milestones completed:	6 of 7 (86%)
Defined tasks completed:	0 of 18 (F%) of child tasks in work breakdown structure
Total estimated project hours used:	80 of 960 (8.33%)
Ahead of (or Behind) schedule by:	10 labor-hours, 0 days
Known defects:	0 open of 0 found
Staff members on project	0 of 0 planned
Contingency hours remaining:	100% of 30 hours

Schedule

Initial estimated completion date:	*May 10th, 2023*
Previous estimated completion date:	*May 10th, 2023*
Current estimated completion date:	*May 10th 2023*

Key Milestones Table

ID	Title	Planned Completion Date	Previous Forecast Completion Date	Current Forecast Completion Date	Actual Completion Date
1	requirements draft due/status report	9/12/23	9/14/23	9/14/23	9/14/23
2	specification draft due/ requirements due	9/20/23	9/22/23	9/22/23	9/22/23
3	specifications due	9/27/23	9/29/23	9/29/23	9/29/23
4	preliminary design due	10/04/23	10/06/23	10/06/23	10/06/23
5	parts order due	10/11/23	10/13/23	10/13/23	10/13/23
6	detailed design due	10/18/23	10/20/23	10/20/23	10/20/23
7	status report	11/8/23	11/10/23	11/10/3	11/10/23

Product Size

For project, we plan to use Minisforum UM790 Pro mini-PC with dimension of
130mm*126mm*52.3mm

Effort

Life Cycle Activity	This Reporting Period (labor-hours)		Project to Date (labor-hours)	
	Planned Effort	**Actual Effort**	**Planned Effort**	**Actual Effort**
researching/requirements	40	24	40	24
specification	40	40	40	40
preliminary design	20	20	20	20
parts order	10	10	10	10

Cost

Life Cycle Activity	This Reporting Period		Project to Date	
	Planned Cost	**Actual Cost**	**Planned Cost**	**Actual Cost**
Mini-PC	$800	N/A	$800	N/A
Camera	$200	N/A	$200	N/A
Air compressor	$200	$129.99	$200	$129.99
Cables	$30	N/A	$30	N/A

Requirements Status

ID	Functional Requirements	Team Member Responsible	Effort (%)	Verification	Completed (%)
FR1	A machine learning model will use the camera to find the location of the fiducial on the PCB.	Fernando Zavala	35%	Test	5%
FR2	A fiducial will be created for the PCB and test tray.	Fernando Zavala	5%	Inspection	2%
FR3	Images of the fiducial should be created and used to train the model.	Fernando Zavala	10%	Test	0%
FR4	A web interface will allow the user to login and start/stop the system.	Jailine Contreras Marquez	20%	Demonstration	5%
FR5	User should have access to camera feed on the interface.	Jailine Contreras Marquez	30%	Demonstration	5%
FR6	Web interface should have a manual override feature where the user should have control of the arm.	Jailine Contreras Marquez	30%	Demonstration	5%
FR7	System should find the PCB by jogging the camera back and forth over a XY axis	Lap Nguyen	20%	Demonstration	0%
FR8	When the PCB location is identified, the system should	Lap Nguyen	10%	Inspection	5%

	lower the arm and pick up the PCB using vacuum				
FR9	When the test tray location is identified, the system should lower the arm and place the PCB in the test tray.	Lap Nguyen	10%	Inspection	5%
FR10	The mini-PC should control the pick-up arm manually to a precise location.	Lap Nguyen	20%	Test	5%
FR11	The camera should be mounted high enough to have a clear and large image.	Fernando Zavala	15%	Inspection	0%
FR12	A machine learning model will use the camera to find the location of the fiducial on the test tray.	Fernando Zavala	30%	Test	2%

ID	Non-Functional Requirements	Team Member Responsible	Effort (%)	Verification	Completed (%)
NFR1	The speed for moving the PCB should be 10mm/s.	Lap Nguyen	20%	Test	0%
NFR2	The system must handle PCBs of size 300 mm wide by 500 mm long.	Lap Nguyen	20%	Inspection	5%
NFR3	The PCB lifting mechanism should be capable of lifting up to 200 g	Fernando Zavala	5%	Inspection	0%
NFR4	The system should pick and place the PCB in 8 seconds.	Jailine Contreras Marquez	10%	Test	0%
NFR5	The system should use the ethernet standard for most communications.	Jailine Contreras Marquez	5%	Inspection	1%
NFR6	The mini-PC should be mounted onto the system.	Jailine Contreras Marquez	5%	Inspection	0%

Top Five Risks

1. *System might have an error from last time it was used*
2. *Getting a defective mini PC*
3. *Software could work in surplus PC but might have to be changed on mini PC*

Open Issues

- *Having access to the previous team to demonstrate how the system works*
- *Time constraints on team members*
- *Getting the correct the lens and camera*

Action Items

Requirement document finished and submit the final version after 2 draft versions
Specification document finished and submitted the final version after one draft version
Preliminary design document submitted
Parts order finished and submit on 10/21/2023

Defects

Not applicable