Fall 2024 Electronic ARTrium VIP -VXE - Maika Hirata
Complete Notebook

PDF Version generated by

Mary Ann Weitnauer (mi6@gatech.edu)

on

Dec 14, 2024 @12:22 PM EST

Table of Contents

Fa24 Week 1 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Aug 25, 2024, 4:09 PM EDT

Assignment #1 - Fa24 Week 1 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 19, 2024, 1:43 PM EDT

New students - it's understood that this is your first week and you may not even know what you will be doing, but anyway record anything that you did for this class, including attending the main meeting and your own notes from the meeting. Everyone needs to use GitHub for this class, so you could tell about a GitHub tutorial you viewed. There will be scribe notes for future main meetings.

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 19, 2024, 1:39 PM EDT

Week 1 Personal Work & Accomplishments, Reflections, and Recommendations

Maika Hirata - Aug 25, 2024, 4:08 PM EDT

8/22/24		• *first meeting of the semester: went over the syllabus contents including sub team details, the logistics of how the exhibit works, and what must be completed before October for each sub team* • *briefly met with those who will likely be in the same sub team and listened to information from the more experienced members*

Loading [MathJax]/extensions/Safe.js

Scribe notes:

MAIN MEETING NOTES (08/22/24)

Scribe: Sanjana Kolla

VIP Sub-teams:
- Sensor Processing and Networking (SPN)
- Electro-mechanical (EM)
- Visual art and sound design (VASD)
- Web and Social Media Design (WSMD)

Leadership Roles:
- Sub-team leader (and co-leaders for larger sub-teams)
- Section Group leaders
    - Most class meetings will be section group meetings
    - Sections will present this semester instead of subteams

BMW Sponsor:
- Will meet with Blender group, but the meeting time will be announced, and all are welcome to join.

Microsoft Teams Communication:
- General channel is for all team members
- Sub-team channels for sub-team posts and storing files too large for Github
- Ask to be added to special interest channels if interested
- Add Dr. Weitnauer to any other additional chat groups

Github:
- Make sure to keep updating main branches with programs that will be used in project
    - Coordinate with sub-team leaders to do so

Project Resources (in Teams General folder):
- Library
    - Previous lab notebooks
    - Git, networking, and Unity resources
- Main meeting notes
- Scribe duty document
- Story script
    - Should read entire script for your section

Overview of Project:
- Software and hardware diagrams for project in PPT for today's meeting
- Overview of each section's storyline with example scenes also in PPT

End of Meeting:
- New members meet with sub-teams to learn about them

Dates and To Do Boxes	Personal Work Log
8/19/24	**[X] Refreshed memory on Arduino programming** • I've worked with Arduinos in the past, but I looked through the Arduino docs (https://docs.arduino.cc/) to remember how it generally works and refresh my memory.
8/19/24	**[X] Signed up for GitHub Enterprise and looked into it** • Registered for a GitHub Enterprise account with my GT email

Loading [MathJax]/extensions/Safe.js

		• Researched a bit if there were any significant differences between a regular GitHub account and a GitHub Enterprise account
8/22/24	**[X] Went through the rest of the syllabus that we couldn't go over during class time**	
8/25/24	**[X] Sub team selection**	
8/25/24	**[X] Read through story script of the exhibit** • Even though I don't know which section I'll exactly be working on, I wanted to know the entire story just so I can get the general idea for the entire exhibit.	
8/25/24	**[X] Hello! message in Teams**	
8/25/24	**[X] Response to Hello! messages in Teams**	
TODO	**[ ] MS Teams notification drill** **[ ] Sub team meeting times (need to wait until after sub teams are decided)**	

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Loading [MathJax]/extensions/Safe.js

Fa24 Week 2 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Sep 03, 2024, 11:04 PM EDT

Assignment #2 - Fa24 Week 2 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Maika Hirata - Sep 01, 2024, 10:23 PM EDT

EM Sub-team

Maika Hirata - Sep 03, 2024, 9:19 PM EDT

Member Name	Member email address	Member Phone Number
Atkinson, Cameron	catkinson36@gatech.edu	224-423-4382
Casimyr, Nathan Joseph	ncasimyr3@gatech.edu	N/A (never responded)
Crawford, Terry Frank III	tcrawford47@gatech.edu	470-263-1167
De Jesus, Karla Marie	kjesus6@gatech.edu	561-413-7237
Everly, Anna Carol	aeverly3@gatech.edu	912-662-4041
Ho, Andy Nguyen	aho86@gatech.edu	470-848-0724
Kondaji, Amogh	akondaji3@gatech.edu	609-945-1745
Lee, Aaron	alee682@gatech.edu	540-449-3747
Mao, Darin	dmao41@gatech.edu	571-253-8879
Ngo, Thanh Lan	tngo70@gatech.edu	706-908-5047
Nhan, Nghi Tue	nnhan3@gatech.edu	404-451-2050
Page, Javin	jpage78@gatech.edu	864-344-6548
Pathak, Anushree Yogesh	apathak85@gatech.edu	929-507-8537
Sundaravadivel, Mukil	msundara3@gatech.edu	706-332-9066
Tiku, Sarvesh	stiku6@gatech.edu	303-827-9659
Tsai, Hannah	htsai62@gatech.edu	573-292-0721
Walker, Clayton	cwalker317@gatech.edu	229-518-8383
Yao, Raymond Yang	ryao49@gatech.edu	762-241-1929

Loading [MathJax]/extensions/Safe.js

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:15 AM EDT

Week 2 Personal Work & Accomplishments, Reflections, and Recommendations

Maika Hirata - Sep 03, 2024, 5:02 PM EDT

Meeting Dates		Meeting Notes
8/29/24		**Week 2 Main Meeting** • mainly an EM sub team logistics meeting • figured out leader (Karla and Darin) • sorted ourselves into tasks based on interests and strengths (What I chose - "Program Cappy's Arduino to make the eyes look at the player (get height of player's eyes from SPN's Pose Group) and add random idling and transitions computed on the Arduino (similary to other narrators).") • determined meeting times for entire the sub team

Meeting Dates		Meeting Notes
		Scribe notes: **2024-08-29 EM at Main Meeting** **Scribe: Darin Mao** Karla and Darin will be co-leads We self-assigned task groups, then we'll assign everything left Lettucemeet sent out for meeting time • Friday 5pm fits most people (Darin will lead) • Friday 1pm will cover the rest (Karla will lead)

8/30/24		**Optional Friday Lab Tour Meeting**
		
		• meeting led by Clay Walker (@ 1 p.m.)
		  ○ learned where the items that pertain to each section are, where to find specific resources online (either in the Teams or a GitHub Enterprise repository)
		  ○ look at past lab notebooks!!!
		• asked some questions specific to my task (Cappy's Arduino programming)
		  ○ Clay advised me to talk to the SPN sub team leader to start with my task since it requires getting information about the height of the player's eyes
		  ○ got added to Cappy's capstone channel by Dr. Weitnauer

Dates and To Do Boxes		Personal Work Log
8/27/24		**[X] MS Teams notification drill**
8/29/24		**[X] Sub team meeting times** • meetings are at 1 p.m. and 5 p.m. on Fridays
8/30/24		**[X] Research what work previous lab students did on Cappy (related to my task)** • attempted to see how the eyes are meant to be controlled by looking at some past portfolio and final report pages related to Cappy's CAD • inspected the head in-person and saw that there were 2 servos, but still uncertain how exactly they move the eyes and likely better to just test the servos to see their range and where it makes the eyes look ○ found a "eye_direction.py" in "Cappy the Caterpillar Capstone Team" Files -> "Python Files" which seems to do this? (Described as a "Python Script to find angles between end-effector and human position") • found some CAD files of the head (which likely includes the eyes) but neither Clay nor I had SolidWorks to be able to open the files and see what they include • also found an incomplete "Eye Design Concepts.docx", but doesn't seem to include the final design that the team went with • eyes should still function the same as how they worked during the capstone project, unlike some other parts that were redesigned like the pincers
TODO		**[ ] Contact Javin Page who is also working on the same task to update on what I've found out so far** **[ ] Contact the SPN sub team lead for pose info (unclear at the moment; not on their main meeting notes)**

Loading [MathJax]/extensions/Safe.js

Meeting Dates	Meeting Notes
	[ ] Read more on capstone team's work on Cappy for the eyes [ ] Test the range of the eyes on Cappy

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Loading [MathJax]/extensions/Safe.js

Fa24 Week 3 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Sep 08, 2024, 11:25 PM EDT

Assignment #3 - Fa24 Week 3 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:53 AM EDT

Individual Semester Goals

Maika Hirata - Sep 08, 2024, 10:18 PM EDT

Project-related:

For my overall project goals for the semester, the first objective I have is that I want to keep up with recording all of the work that I did in a way others can understand easily since documentation of my work can slip my mind sometimes. The success criteria is if I can look back at my lab notebook and figure out my thought process and what I was working on just based on what I wrote.

Another is that I want to learn to use the Arduino for work that's more complicated than what I've done before, since for Cappy the Caterpillar, it'll be necessary to have Cappy's eyes continuously moving to track the player in real time. The success criteria for this is whether I can get my task for Cappy complete by the individual task deadline, which is in about a month on October 3rd. I anticipate that I'll run into roadblocks considering my work relies on the work that other people have done before me, and that I'll need to maintain good communication with those both in my sub team and in other sub teams. \

Task-related:

Objectives - to program Cappy the Caterpillar's Arduino to look at the player while doing its idle animations. Based on existing documentation by the capstone team who worked on Cappy, the eyes are controlled by 2 servo motors while the body is controlled by DC motors. For figuring out the eye movements, a replica set of eyes will be created for testing purposes.

Success Criteria - When the full Cappy animatronic is assembled and at its final height, the eyes should angle in a way to track the player while performing the animations that the VASD sub team has designed. The

Week 3 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Meeting Dates		Meeting Notes
9/5/24		**Week 3 Main Meeting** • will be meeting in section groups for the rest of the semester as we work on our individual tasks

Meeting Dates	Meeting Notes
	Scribe notes:

Scribe notes:

Main Meeting Notes 9_5

Scribe: Xinwen Cui

Main Meeting Notes - 9/5/2024

Scribe: Xinwen Cui

Dr. Weitnauer has new bins so people with parts can use these bins. Remember, write the label on a piece of paper (not on the bin) and put the label in the label slot of the bin. Place the bins on the shelf with the labels facing out and stack them.

Sit in Sections:
   Select a scribe for each Section.
   Introduce yourselves: what is your project? How does it fit into the Section?
   Electer a leader (orderly, communication in a timely manner, motivated)
   Make a timeline (what you think has to happen before another thing has to happen.)

Coordinate with other people in the Section to see whose work you need to do your job, if they do not get things done in a timely manner, talk to the Section leader then, if still not resolved, talk to Dr. Weitnauer. Do not wait on others too long before starting your task.

Reach out to people on Teams, do not wait until the main meetings to talk to them.

Meeting Dates	Meeting Notes

Loading [MathJax]/extensions/Safe.js

Meeting Dates	Meeting Notes
	Week 3 Section 2 Meeting • explained our individual tasks to each other (and basic introductions) • had Cho and Shreya join from section 4 as we were lacking SPN sub team members at this week's section meeting ○ likely going to work with Shreya to get the pose information for the player (which I have to later code to get Cappy's eyes to track) • note: seemed to be missing quite a few people who are working on tasks related to the section

Loading [MathJax]/extensions/Safe.js

Meeting Dates		Meeting Notes
		Scribe notes: **Section 2 Meeting (09-05-2024)** **Scribe: Hannah Tsai** # Section 2 Meeting (Sep 5th, 2024) Scribe: Hannah Tsai **Self-introduction** • Mackenzie (VASD): get ladybug fly out into the field into shapes of numbers • Lekhya (VASD) - working on the sound design • Hannah (EM) - blooming flowers • Karla (EM) - blooming flowers • Maika (EM) working on Cappy's eyes to track where the player is & idle movements • Yuchan Cho (SPN) - hand height recognition • Shreya Sasmal (SPN) - measure player's eye height and sending to cappy (other members as listed in the Task list sheets) • Clay Walker • Javin Page • Sanjana Kolla • Krishnav Singhal • Amber Ephraim • Shavon Edih • Sakshi Sakkad • Arshiya Rahman • Xinwen Cui • Vanshika Khatwani **Select Section Leader** • Lekhya as Section leader **Timeline** 1. Everything (non-section control stuff) being done by October 3rd a. Shreya to send the points to Maika & Javin for cappy before then 2. After October 3rd, help with section control & integration
9/6/24		**Week 3 EM Sub team Meeting (5pm)** • worked on the EM sub team priorities list document (which includes the best way to contact each member, what their task for the upcoming week is, what documentation they

Meeting Dates	Meeting Notes
	reviewed/still need to review, and any questions that they need answered) • asked those who worked on Cappy before (Darin and Clay) whether there were any issues with creating a replica set of eyes based on the CAD found in the capstone Teams channel (there shouldn't be, since only the pincers have been updated since then) • Darin discussed the portfolio and emphasized how important it is to keep in mind what type of information would be useful to write in it (I need to make sure to keep that kind of information in my personal lab notebook, along with any documentation, until the time to write the portfolio comes around)

Meeting Dates		Meeting Notes
		Scribe notes: **20240926 Meeting Notes** **Scribe: Karla De Jesus** 1:00 pm Meeting Scribe: Karla De Jesus - Went around and did introductions - Shared what was done this past week ○ Documentation reveiwed, tutorials watched etc - Shared what is the plan for the rest of the week/ next week - Left time to answer any questions

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 EM_5pm_9-6-24_subteam-meeting
		
		 Scribe: Anushree Pathak
		
		 Sub team Meeting: EM 5pm 9/6/24
		
		 Scribe: Anushree Pathak
		
		 - Don't forget to fill out the document that Karla sent (Priorities for 9/3-9/8)
		
		 - Brief overview of these sub team meetings:
		
		     ○ Give updates on progress
		     ○ Discuss any assignments upcoming
		     ○ Ask questions, etc.
		
		 Individual updates:
		
		 - Darin – ticket booth
		
		 - Clay – plans to add networking function
		
		 - Raymond – has been working on starter kit, task is spinning mushrooms
		
		 - Mukil – working with snowy, finishing assembling – testing angles of her beak – has to meet up with Dr. Weitnauer
		
		 - Sue – honeycomb – plans to cut out and paint them next week
		
		 - Hannah – blooming flowers with Karla – meeting with her to fabricate them
		
		 - Nathan – circling bees
		
		 - Sarvesh - working with Darin on the ticket booth – has to figure out materials
		
		 - Maika – Cappy's eye movements – has to contact Xinwen for the unity data, and make a replica for testing
		
		 - Anushree – Sandy's dance – need to listen to music and play with servos
		
		 - Thanh– honeycomb cells – working with Su – painting, cutting, etc.
		
		 Assignments that are due:
		
		 - Portfolio – large document – try to get started early
		
		     ○ Keep track of what you have done in a folder to make it easier to add to the document later
		 • Not doing PCB (Clay discussed with Dr. Weitnauer) -> soldered protoboards

Dates and To Do Boxes		**Personal Work Log**
Loading [MathJax]/extensions/Safe.js		**] Read more on capstone team's work on Cappy for the eyes**

Meeting Dates		Meeting Notes

		• Read through most of the final report of the Cappy capstone team, particularly in sections that relate to the eyes
		    ○ There's a formula provided for the eye direction and the associated python script (which utilizes current robot eye location and goal location), where the inputs are x, y, z coordinates
		    ○ 1 servo controls vertical movement, and the other controls horizontal movement of the eyes

9/4/24		**[X] Contact Javin Page who is also working on the same task to update on what I've found out so far** • Said that they haven't found much information so far, but were looking into it (haven't been able to contact since)
9/5/24		**[X] Contact the SPN sub team lead for pose info ~~(unclear at the moment; not on their main meeting notes)~~** • Talked to Shreya directly during class time since she's the one working on extracting pose information • Said she would work on getting the information sent to me. which shouldn't be too much of a worry in terms of time since there are other tasks that need to be completed first
TODO		**[ ] Create a replica set of eyes for Cappy in the Hive** **[ ] Test the range of the eyes on Cappy (waiting until I can create the replica set of eyes to test)** **[ ] Use the bone angles from Unity for Cappy's eyes to code angles for preset player heights (waiting until Xinwen is able to create working animations with inverse kinematics)**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 4 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Sep 15, 2024, 10:30 PM EDT

Assignment #4 - Fa24 Week 4 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:25 AM EDT

Week 4 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Sep 15, 2024, 3:56 PM EDT

Meeting Dates		Meeting Notes

9/12/24		**Week 4 Main Meeting**
		 • discussion of the project timeline: (tasks should still be ideally completed by October 3rd)
		
		 • looked at the task list which has color coding to see the status of what is currently being worked on and what still needs to be assigned to someone
		 • sections 3 and 4 had their presentations
		     ◦ overview of the block diagrams (how the different systems of the section connect to each other)
		     ◦ schedule review (similar to the timeline above for the most part)
		     ◦ fabrication and machine learning progress for honeycombs (section 4)
		     ◦ bar code scanner code, circuit diagram, and Sandy progress (section 3)

Meeting Dates		Meeting Notes
		Scribe notes:

Main Meeting Notes 9_12

Scribe: Vanishka Khatwani

Main Meeting Notes: 9/12/24

Scribe: Vanshika Khatwani

Revised Project Timeline Takeaways:

Sep 19th: *Designs need to be reviewed*

Sep 23rd: *New designs need to be completed so parts can be ordered*
Make sure to document all your progress on your portfolio.
    Assets on blender/unity, parts for building, etc.
Inviting BMW for second "dress" rehearsal

Use Task List document to see task status! Help out wherever you can with pending tasks.

Section Presentations: General > Files > Main Meeting Files > Fall 2024 > 9/12

Meeting Dates		Meeting Notes
		Week 4 Section 2 Meeting • only talked generally about task progress (not very much time left for the section meeting remained) • some members mentioned specific things they needed other members to do (within VASD)

Week 4 Section 2 Meeting

• only talked generally about task progress (not very much time left for the section meeting

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 Section 2 Notes (9-12-24)
		
		 Scribe: Maika Hirata
		
		 Section 2 Meeting (9/12/24)
		
		 Scribe: Maika Hirata
		
		 • *Lekhya will create section 2 presentation slides for next week*
		    ○ *everyone should add information on their own tasks to the presentation*
		 • *General reminders of deadlines (Oct. 3 for tasks) and members will keep working on their assigned tasks*
		    ○ *VASD:*
		      ▪ *Making numbers out of ladybugs*
		      ▪ *Lekhya will look over sound files from the summer*

9/12/24		**Task Meeting with Dr. W and Javin**
		 ※ if underlined, then those are notes that were added after meeting with Xinwen as well to get confirmation about animations and the information we can get from Unity
		
		 • Having Cappy look at the player (Deviation from standard player height for eye motor control)
		    ○ Xinwen can get motor data for the eye servos for a standard player height by creating an object in Unity that Cappy will continue to look at
		    ○ Can test different player heights at set intervals to see what the deviation from the original motor data is (and create a function based on player height vs. how different the motor data has to be)
		    ○ Apply said function based on the height we get from the player in real time to the motor angles we get from the SD card script (this function can be kept on both when Cappy is looking at the player and when Cappy is just looking around) since there's less hassle of figuring out when to turn the script for adjusting motor angles on and off
		    ○ The function would be developed using one of the handmade animations which hopefully works out since the rest of the animations which will be autogenerated still need tuning
		    ○ Can write code using a random curve (e.g. sin curve) and an arbitrary slope as stand-in data before getting real data
		 • Idle animation smoothing using a moving average of randomly generated numbers (current and 2 previous values)
		    ○ Python can generate a random number using a function
		    ○ Continuously store random numbers to get an average
		    ○ Smoothing and the samples required would depend on how it looks with however many samples
		    ○ Can plot a curve of the average vs. the time
		 • Transitions between idle animations and cutscenes
		    ○ Would need to see if Cappy is in a resting position at the beginning and end of the scenes
		    ○ If not, need to figure out a way to get from the position right before transitioning into a cutscene to the position starting a cutscene quickly without much delay

Meeting Dates		Meeting Notes
		○ <u>Got confirmation that Cappy starts and ends in a set resting position, so there's not as much of a worry about the transition</u> - Might be helpful to work with Harry and Darin on James the Jaw to get an idea of how to extract data from the SD card (similar to what we would have to do with Cappy to get the motor data for each joint for the cutscenes) ○ Whether Javin and I decided to do this was dependent on if we could get started on our actual tasks without solid data with Xinwen and Clay, which seems possible so we most likely won't be doing this
9/13/24		**Week 4 EM Sub-Team Meeting (5pm)** - group portfolio document for notes in Fall 2024 EM sub-team folder that we should start editing, leading up to its submission - keep GitHub commits in mind since the first one will be due starting week 5 - the data I'll get from the SD card for Cappy will be a csv file set up similarly to a matrix with angles for Cappy's 2 servos ○ Clay has to translate the data given by Unity to a range that the servo can take and stay within servo travel limits

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 9_13_24 EM Sub-Team 5PM Meeting Notes
		
		 Leader: Darin Mao
		
		 Scribe: Trey Crawford
		
		 - Karla uploaded a portfolio document to the Teams
		
		 - Introductions and names
		
		 - Updates
		
		   - Darin: Took inventory of ticket booth materials and decided that they will be proceeding with the designs from last semester. Is working on barcode scanners
		
		   - Anushree and Trey: got Sandy's circuits
		
		   - Sue and Thanh: Lasered panels for the sliding doors
		
		   - Makil: All parts ordered for Snowy's beak, will start assembling soon
		
		   - Raymond and Andy: Andy is working on the mechanical part of the spinning mushrooms, Raymond is working on the software. Will talk to each other to coordinate
		
		   - Mica: Working on the replica of the eyes for Cappy. Met with Dr. Weitnauer and Xinwen to determine that she was working on the eyes specifically
		
		   - Clay: Documentation on Sandy and circling bees on Tuesday. Still working with Sandy and has the control code to display servo values written, now has to get animation values from VASD
		
		   - Nathan: Been watching Arduino tutorials and was sent the wiring diagram of the circling bees
		
		   - Hannah: Working on the blooming flowers and started fabrication of the last flower, just needs to finish the petals
		
		 - First Github commit coming up, will be due every two weeks

Dates and To Do Boxes		**Personal Work Log**
9/9/24		**[X] Create a replica set of eyes for Cappy in the Hive** • Queued the 3d printing for a replica set of eyes (was finished and picked up on 9/10/24, along with 2 servo motors from the circling bees bin in the lab) • Had some help from a Hive PI to drill holes into the set and assembled according to "Eye Assembly and 3D Printing Instructions.pdf" under Cappy the Caterpillar Capstone Team Files > Final Deliverables > Caterpillar Capstone Team Products Fall 2023 > All CAD files, Drawing, and PDF > Head(most recent) > Eye
TODO		**[ ] Write code for adjusting values using a linear function, mimicking what we'd do with the tilt and pan motor values (intermediate deadline: 9/18/24)** **[ ] Use the bone angles from Unity for Cappy's eyes to code angles for preset player heights**

Meeting Dates	Meeting Notes
	(waiting until Xinwen is able to create working animations with inverse kinematics)
	[ ] Test the replaced values and function after receiving angles and have readable values

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Meeting Dates	Meeting Notes
	(waiting until Xinwen is able to create working animations with inverse kinematics)
	[ ] Test the replaced values and function after receiving angles and have readable values

Fa24 Week 5 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Sep 24, 2024, 10:10 PM EDT

Assignment #5 - Fa24 Week 5 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	(Enter grades using Speed Grader™ in Canvas)

Submitted

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:25 AM EDT

Week 5 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Sep 24, 2024, 10:10 PM EDT

Meeting Dates	Meeting Notes
9/19/24	**Week 5 Main Meeting** • github commit screenshot should show the time next to the commit itself (not the computer's system date and time) • midterm portfolio details ○ can be sorted into tasks with review of existing work, task requirements and specifications, etc. all grouped for said task to make understanding a task's timeline easier • section 1 and 2 presentations

Meeting Dates		Meeting Notes
		Scribe notes: **Main Meeting Notes 9-19-24** **Scribe: Andy Ho** **Main Meeting Notes: 9/19/24** Scribe: Andy Ho **First GitHub commit:** • New people should ask experienced people for help • Assignment is screenshot of GitHub commit within time window 　○ Time window is about 2 weeks • Make sure to show the date in GitHub history • Commit could be as simple as writing a README or uploading something and explaining what you uploaded **Midterm Portfolio due October 10:** • Turning in first five sections of midterm portfolio plus front matter • Cover page section number is "VXE" don't need course numbers • Table of Contents - hyperlinks are appreciated • Executive summary less than or equal to 2 pages • Introduction should start on page 1 • Front matter sections should be numbered: i ii iii iv ... • Review of existing work: show research with citations and include images • Task requirements and specifications - what you're supposed to be designing • Ideation - different options considered for final design • Concept selection and justification: justify why you are choosing specific choice • Use word cross references for figures, tables, and references 　○ Common errors are captions aren't in right place 　○ Use IEEE template for references **Section 1:** • Speakers: Darin Mao, Michael Leonick • Ticket no longer has expiration **Section 2:** • Speakers: Lekhya Adari, Mackenzie Williams • Modeled bee swarm number animation • SPN team using UDP packets from unity in the arduino to track player eye level so Cappy can maintain eye contact with the player
9/20/24		**Week 5 EM Sub-Team Meeting (5pm)** • first GitHub commit should be made by Sunday (and code should be reviewed by at least 1 other person) • general weekly updates by all members on individual tasks

Meeting Dates		Meeting Notes
		Scribe notes: **09_20_24 EM Subteam 1pm** ***EM Sub-Team Meeting - 1PM – 9/20/2024*** **Leader: Karla De Jesus** **Scribe: Javin Page** Going over first commit to Github. Decided to make one branch per task over one branch per person. Updates – • Determined how many clouds needed to cover entire ceiling. Plans for controlling LEDs in lanterns with an Arduino. Need to setup Arduino MEGA. • Working on CAD file for Mushroom to replace old one. Figuring out how to assemble. • Inspected flowers for how motors and screws are coming loose. Plans on how to better secure the servos. • Developed test code for adding random values to what is being written to servos. • Worked on code for the flowers and Arduino circuit. Problem with overpowering Arduino, plans to discuss with past VIP member. Went over GitHub assignment doc, installed git, cloned VIP repo, and created branches for our task. GitHub Desktop is also an option for managing the repo and branches. **Conventions for Creating Branches** • **Feature, Fix, and Refactor** • Creating a branch example – "git checkout -b feature/cappy-random-idling" Git pull requests now must be approved by another member before being merged on to the main branch. Git commits due on Sunday.

Meeting Dates		Meeting Notes

		09_20_24 EM Subteam 5pm Notes
		
		9/20/24 EM Sub-Team Meeting Notes (5pm)
		
		Scribe: Maika Hirata
		
		- GitHub commit requirement starts this week (due Sunday)
		  - Everyone should commit something with a conventional commit message ("type of commit *e.g. fix or feat*/some message"); even if it's not code and just a README
		  - People working on the same task should still individually commit something
		  - EM Git Guide in EM channel (github-assignment.docx (sharepoint.com))
		  - All code requires 1 review; might be turned off eventually but should still be reviewing code, especially if working in a pair
		- Task updates
		  - Darin:
		    - Submitted 3d prints to HIVE and assembled internal structures à moving onto shell
		    - Still working on beehive design
		  - Ivan
		    - Sandy head mount piece worked on and fixed gear chain
		    - Completed wiring
		    - Still need to work on emergency brake, but **ready for testing** in general
		    - Working on getting the cover to transition better from head to body for Sandy (but will be the last thing to be worked on)
		  - Hannah
		    - Blooming flowers - 2 petals done with fabrication; 3 left
		    - Working on integrating with body
		  - Mukil
		    - Still working on Snowy assembly; might need to 3D print some pieces at the Invention Studio but they're already CAD'd
		  - Raymond
		    - Spinning mushrooms – talked to Andy at meeting (waiting until he disassembles old parts because with the current system, motors are hard to get out)
		    - Learning how to use motor shield while waiting
		  - Sue
		    - Honeycomb doors – worked with Thang to assemble 2 of the moving cells (should assembled most of the rest by the end of next week)
		    - Thang will pour resin on the surface and stringing lights of the rest of the cells
		  - Anushree and Terry
		    - Did servo work in the lab since Sandy was inaccessible for most of the week
		    - Got access to music files
		    - Draft for power circuit for Sandy was sent by Clay, need fuses
		  - Maika
		    - Working on Arduino code for getting UDP packet info (could parse the real-time height as raw numbers) and reading SD card info (for

Meeting Dates		Meeting Notes

		servo motor angles)
		■ Maybe check Snowy Owl sketch folder (Fall 2023 GitHub repo) since it should contain UDP code files
		    ○ Sarvesh
		        ■ Met with Dr. W to discuss and choose final design for ticket booth
		        ■ Can move onto fabrication

Dates and To Do Boxes		Personal Work Log

9/19/24		**Personal Work Day**
		  ● coding how to read values from an SD card and receive UDP packets
		    ○ referenced ARTrium GitHub's EM-Spring-2024 repo files
		      ■ what's written in the README for the snakenarrator Lip Sync folder: "This folder holds all files related to the SD card reading. We use these code files when reading files (with angles values for the servo motors) from an SD card. The values read into the Arduino from the SD card will be used to move a servo motor by a certain number of degrees (given to us from the file). This is required because a scene in Unity will use a UDP JSON packet to call a file (that will be present on the SD card) which will then cause the Arduino to read in angle values in a 0.02 second interval (using a timer-based PWM servo code) and move the servo motor accordingly. Therefore, this folder stores initial test files to read SD cards (SD Initial test subfolder) and then write that data to the Arduino to move the servo (SD read constant Time). Additionally, the test file will all of the data that needs to be read in is present in the SD Test with Cappy Angle Data subfolder."
		      ■ generic example for reading/writing to and from an SD card for servo positions - snakenarrator/Lip Sync/SD Initial Test/SDReadAndConvertToServoPos.ino
		      ■ not for the same type of program, but an example of reading values from an SD card by previous ARTrium members - snakenarrator/Lip Sync/SD Final Lip Sync Program/Lip_Sync_Program.ino
		      ■ has code for "controlling multiple motors using cues via TCP and precomputed animations in SD cards" - ethermulti
		  ● committed to the branch "feature/cappy-eyes" in the GitHub Enterprise EM Sub-team repo for this semester (VIP-Electronic-Artrium/EM-Fall-2024)

9/19/24		**[X] Write code to read from the SD card and receive UDP packet files**
		  ● copied over SD card and UDP Arduino code from previous semesters
		  ● edited to fit the current task (Cappy's eye tracking)
		  ● need to test said code, still unsure how the format for motor angles txt file will be so will probably have to change how file values are read depending on that

TODO		**[ ] Adjust servo motor values using a linear function** **[ ] Test Arduino code** **[ ] Use the bone angles from Unity for Cappy's eyes to code angles for preset player heights**

Meeting Dates		Meeting Notes
		(waiting until Xinwen is able to create working animations with inverse kinematics)
		[ ] Test the replaced values and function after receiving angles and have readable values

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 6 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Sep 29, 2024, 10:24 PM EDT

Assignment #6 - Fa24 Week 6 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:25 AM EDT

Week 6 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Sep 29, 2024, 10:24 PM EDT

Meeting Dates	Meeting Notes
9/26/24	**Week 6 Main Meeting** • can still go into Van Leer even though there are digital days because of the hurricane • section 3 and 4 presentations should be checked for full details

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 Main Meeting Notes
		
		 Scribe: Raymond Yao
		
		 Main Meeting Notes: 9/26/2024
		 Scribe: Raymond Yao
		 Introduction (Dr. Weitnauer):
		 • Van Leer is not closing for the long weekend, so we all should still have access to come into the lab
		 • If you do go into the lab, PLEASE check the water to make sure it doesn't overflow (if this happens, roll the filled garbage can and dump it outside of Van Leer)
		 Section 3 Speaker(s): Anushree Pathak, Daniel Je
		 • Similar subsystem block diagram to Section 1, but with Mushroom/Sandy Mechatronic outputs (add Swifty the Sloth as well)
		 • Schedule:
		    ○ Exhibits elements integrated Oct. 24
		    ○ First dress rehearsal Nov. 17
		 • Scenery/sound updates (VASD) -> see presentation
		    ○ Have a "sunrise", but instead of the sun, it's the number clue
		 • Wiring diagrams being finished (EM)
		 • Setbacks: audio wiring, code issues (for more details see presentation)
		 Section 4 Speaker(s): Thanh Ngo, Sue Nhan
		 • Include communication of honeycomb cells in subsystem block diagram
		 • (Same schedule as before)
		 • Accomplishments:
		    ○ Integrated ML script
		    ○ Redesign honeycomb supports
		 • Setbacks:
		    ○ Scripts for vector calculations
		    ○ Coding the client-server communication
		 • For full details, see presentation

9/27/24		**Week 6 EM Sub-Team Meeting (5pm)** • individual updates as usual; hurricane messed up most people's plans to work on their task physically so there were setbacks • group portfolio outline has to be filled out and should check out previous group portfolios to see what we should look out for when writing information for our task

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 9_27_24 EM 1PM Subteam Meeting Notes
		
		 9/27/24 EM 1PM Subteam Meeting
		 Scribe: Anna Everly
		
		 • Meeting is online due to inclement weather
		  ○ Would have filled out group portfolio outline in person
		  ○ Go fill in group portfolio doc by Sunday
		 • Updates
		  ○ Karla: Figured out the code for the flowers. Came up with a circuit but concerns about overpowering it. Motor driver didn't really work. Met with Dr. Weitnauer about circuit requirements and design. Met with Clay to talk about the circuit and found out that motor driver not needed. Working on overall circuit diagram for all four flowers to get approved (need to send it to Dr. W/Clay to be approved before testing circuit). Plan next week: go into the lab when the weather is better, fix flowers, test circuit.
		  ○ Amogh: Finished calculations for waving flower circuit. Referenced previous circuit diagram from the last exhibit. Started testing and ran into problems with assembling circuit. Found out screws are broken so the connection is not secure. Plan to replace buck converters.
		  ○ Anna: Met with Dr. Brothers for advice on the design of the honeycomb supports, now evaluating the two options. Was waiting on aluminum sheet to come in, already have the file for the jig. Next steps are to laser cut the aluminum sheet, trace the holes on the door, and actually cut them out.
		  ○ Javin: Finished code that is able to read dummy data to write to servos for Cappy. Plan next is to get it to read file off SD card.
		  ○ Andy: Have Mushroom CAD ready and went to the Hive to get it printed on Wednesday, waiting to see if it fits with everything else from the last exhibit. Also went to the lab this week to better understand how everything works and am trying to see if design would allow easier access to the electronics.
		 • No questions or concerns

Meeting Dates		Meeting Notes
		09_27_24 EM Subteam 5pm Notes

9/27/24 EM SUBTEAM MEETING: 5pm

Scribe: Mukil Sundaravadivel

Individual Updates:

Darin

  - Met with Dr. W earlier about barcode scanner requirements

    ○ Dr. W wants some adjustments in the design (frame etc.)

Thanh

  - Got more work done with the honeycomb frames

    ○ Put resin varnish on honeycomb frames
    ○ Did some preassembly for frames

Clay

  - Worked on cappy's assembly

    ○ Installed cappy's pincers
    ○ Ordered some needed parts
    ○ Met with people from EM team and helped around with questions

Mukil

  - Working on making CAD fixes for Snowy

    ○ Adding a mechanical stop for Snowy's beak servo
    ○ Combining parts to make installation of the mechanism easier

Raymond

  - Created circuit design for mushrooms

    ○ Awaiting feedback and review from Dr. W

    ○
    ○ Spoke with Andy about project integration

Maika

  - Modified code to receive UDP packets to adjust angle according to player height

  - Working on receiving Unity data

Anushree

  - Working on dance code for Sandy

Sue

  - Planning to work on finishing comb cells this week

Meeting Dates	Meeting Notes
	Portfolio is due in a few weeks, talked about filling out outline document in Group Portfolio folder for each task. - Subteam channel -> Fall 2024 Materials -> Group Portfolio Github commit due in a few days
Dates and To Do Boxes	**Personal Work Log**

9/24/24	**[X] Adjust servo motor values using a linear function**
	  • Created a simple function to get the original motor value, and put in stand-in values for the linear function (ax + b where a and b are stand-in values and x is the original motor angle number)
	  • Worked with the old data from Xinwen for now
	    ◦ Got new ones in the evening on 9/29 so I can work on using the final values for next week

TODO	**[ ] Test Arduino code physically** **[ ] Use the finalized bone angles from Unity for Cappy's eyes to code angles for preset player heights (Eye IK files were being remade because of an error)** **[ ] Test the replaced values and function after receiving angles and have readable values**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 7 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Oct 06, 2024, 11:58 PM EDT

Assignment #7 - Fa24 Week 7 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:25 AM EDT

Week 7 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Oct 06, 2024, 11:58 PM EDT

Meeting Dates	Meeting Notes
10/3/24	**Week 7 Main Meeting** • work might be featured on the Instagram to promote the project online and get people to show interest • section 1 and 2 presentations

Meeting Dates		Meeting Notes

		Scribe notes:
		
		Main Meeting Notes_10_3_2024
		
		Main Meeting Notes: 10/3/2024
		Scribe: Akash Jain
		
		Web Design and Social Media Speaker: Tyler Parker
		    Attempting to establishing social media presence through Instagram
		        @electronicartrium
		    Issues with formatting and Google search algorithm being fixed
		        Website not showing up for the search Electronic ARTrium
		
		Section 1 Speakers: Soham Agarwal, Sanjana Kolla, Sarvesh Tiku
		    Assembly / testing will be done by Oct. 10th
		        First dress rehearsal Nov. 14th
		    Ethernet lip sync was successfully tested with a physical Arduino
		        Initially was breaking connection with Python server, however, the Arduino doesn't need constant connection with the Python server for it to work
		    Barcode generation was made random
		    Internal structure of barcode enclosures was test-fit and works well
		        External shell requires some revisions
		    CAD design changes for Snowy's beak mechanism
		        Structure is now easier and simpler to install
		    New LIDAR sensors were calibrated
		        Designs for new housing created
		    Next Steps:
		        Store barcodes in MySQL at print time
		        Rework enclosure to be wall-mountable
		        Finish connecting all 4 LIDAR sensors at once
		            Start creating housings
		        Finish writing game code
		        Fix jaw movement for lip sync
		
		Section 2 Speakers: Karla De Jesus, Hannah Tsai, Maika Hirata
		    VASD Unity
		        Finished ladybug movement pattern
		    VASD Section Control
		        Added sounds to gameplay in Unity
		        Connected python pose script to cursor movement script
		        Changed section 2 cursor script to mirror section 1 bee movement script
		    VASD Blender
		        Confirmed ladybug model details with Dr. W
		    SPN
		        Tested pointing heights
		        Connected Unity and Mediapipe
		        Set up and tested barcode client server connection
		
		    EM
		        Coded SD card and UDP packets based on previous code and adjusted values based on linear functions for pan and tilt

Meeting Dates		Meeting Notes
		Created code that sends steam of random values to write Cappy's movement
		Started assembly of Cappy's head
		Started working on circuit redesign for one of the older flowers, began working on code to control all 4 flowers
		Researched a new circuit design that will work better, finalized design
		To - do:
		Start assembly of last flower structure
		Test code

Meeting Dates		Meeting Notes
		Week 7 Section 2 Meeting • individual updates and next steps (which for me is talking to Darin to figure out how to test code, especially while the pose group is still figuring out how exactly the real time poses are going to be sent out)
		Week 7 Section 2 Meeting

Meeting Dates		Meeting Notes
		Scribe notes: **10-3-2024 Section 2 Meeting Notes** ***Section 2 Meeting Notes*** *Scribe: Lekhya Adari* *Determined next presentation speakers – Oct. 17th :* *Cho and Javin* *Updates:* *Maika: Does not know how to test SD card code with arduino. Karla suggested reaching out to Darin who has more experience with arduinos and wrote OG code for help with testing her code.* *Lekhya: helping complete Christy's VASD cutscene tasks (since she has dropped out). They are mainly for section 1. Serena (section control member for section1) may also be working on them. All of her non-integration tasks for section 2 are completed, after the Oct. 10th deadline she hopes to get started on integration for narrator voices.* *Karla: Flowers mostly done, some redesigning is happening. Lekhya wondered if there are 4 arduinos for every flower, but Karla clarified that it is only one arduino for all 4 flowers, so the server only needs to connect to two arduinos total in section 2 (one for Cappy and one for the flowers).* *Next Milestones:* Finishing up all remaining individual tasks and slowly starting the integration process.
10/4/24		**Week 7 EM Sub-Team Meeting (5pm)** • peer reviews should be for those who you mainly worked and communicated with (not everyone on your subteam or section if you didn't work with them) • everyone should finish working on group portfolio content by Wednesday • individual tasks are due next week, along with another GitHub commit on Sunday

Meeting Dates		Meeting Notes

		Scribe notes:
		
		10_03_24 EM Subteam 1PM meeting notes
		
		Scribe: Amogh Kondaji
		
		Announcements
		    VIP peer evaluations
		    Lab notebook and Github commit due Sunday
		    Individual tasks due Thursday
		    Group portfolio due Thursday
		        Aim to finish sections 1-3 by Sunday
		        Karla and Darin will proofread
		        For the design concept sections, if you're building on something from previous semester, make sure to mention modifications, fixes, changes
		        Appendix should include pictures and code snippets
		        References can include old documents you referenced
		        Make sure to use cross references
		Updates
		    Anna
		        Working with Dr. Brothers to rehang doors
		        Working on cutting holes in doors
		    Javin
		        Worked on SD card reading code and randomized values before cutscenes
		    Karla
		        Breadboarded circuit for Blooming Flowers
		        Plan to finish assembly once additional
		    Andy
		        Spinning mushroom CAD
		        Split into 4 sections and
		    Trey
		        Programming Sandy dancing
		        Focusing on matching to sine wave instead of hardcoding movement to 5 songs
		Scribe: Amogh Kondaji
		
		Announcements
		
		VIP peer evaluations
		    Lab notebook and Github commit due Sunday
		    Individual tasks due Thursday
		    Group portfolio due Thursday
		    Aim to finish sections 1-3 by Sunday
		        Karla and Darin will proofread
		        For the design concept sections, if you're building on something from previous semester, make sure to mention modifications, fixes, changes
		        Appendix should include pictures and code snippets
		        References can include old documents you referenced
		        Make sure to use cross references
		        Updates
		    Anna
		        Working with Dr. Brothers to rehang doors
		        Working on cutting holes in doors

Meeting Dates		Meeting Notes
		Javin *Worked on SD card reading code and randomized values before cutscenes* *Karla* *Breadboarded circuit for Blooming Flowers* *Plan to finish assembly once additional* *Andy* *Spinning mushroom CAD* *Split into 4 sections and*

Meeting Dates		Meeting Notes
		10_04_24 EM Subteam 5PM Notes ## 9/27/24 EM SUBTEAM MEETING: 5pm Scribe: Nathan Casimyr

		Darin:
		
		 Scanner usability:
		
		     Signs (pictures that convey how to use barcode scanners)
		     Mounting area for barcode scanner (in case)
		 Kanav:
		
		     Finished CAD for Circling Bees and Sloth
		 Clay
		
		     Fixed voltage regulator on Sandy
		     Block convertors
		     Now doing scaling of animation on Blender
		 Nathan
		
		     Watched Arduino videos on Servo control
		     Start integration of wiring for circling bees
		 Thanh
		
		     Got more honeycomb cells done
		     Need to finish one more
		 Sue
		
		     Laser-cutted frames for honeycomb cells
		 Anushree
		     Went to the hive to get more pieces
		 Maika
		
		     Got data from Xinwen for UDP
		     Need to test data to see if it works, requires connection to Ethernet.
		 Hannah
		
		     Finished fabrication for most flowers
		     Scheduled time on Sunday to finish last flower

		Finish sections 2.1-2.3 by Wednesday *GitHub commit due this week*
Dates and To Do Boxes		**Personal Work Log**
10/2/24		**[X] Use the finalized bone angles from Unity for Cappy's eyes to code angles for preset player heights (Eye IK files were being remade because of an error)** • Made an excel sheet compiling all IK angles • Created graphs based on the difference between the angles of each height and each cutscene (Linear function that would be used is what's seen in the upper left corner with the format

Meeting Dates		Meeting Notes
		y=ax+b) **FriendHeresHow Eye X-Axis Trendline** y = 2.2893x - 16.987 • When comparing the eye angles for each height, they were basically the same, but had a different range, as expected: (This is for the x-axis eye motor angles, with the lines differentiated by height) **Motor angles for each height** • Can put the linear function values into code now
	TODO	**[ ] Add code to prevent servo angles from trying to go out-of-bounds** **[ ] Test Arduino code physically** **[ ] Test the replaced values and function after receiving angles and have readable values**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 8 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Oct 13, 2024, 8:04 PM EDT

Assignment #8 - Fa24 Week 8 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	(Enter grades using Speed Grader™ in Canvas)

Submitted

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:23 AM EDT

Week 8 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Oct 13, 2024, 8:04 PM EDT

Meeting Dates	Meeting Notes
10/10/24	**Week 8 Main Meeting** • prioritize parts of your individual task that will relate to others' tasks and overall integration within the section (smaller details that don't rely on communication with others can be sorted out as you go along)

Meeting Dates		Meeting Notes
		Scribe notes: ***Main Meeting*** <ins>***Notes***</ins> **10-10-2024** *Scribe: Dr. Weitnauer* *Announcements:* • *Now everyone should focus on integration. Even if your project is not done, prioritize the communications part, so you can demonstrate that your project responds to Section Control commands. You can finish the other parts in parallel, but you cannot wait until the other parts and consider the communication part last. Dr. Weitnauer will be approaching selected groups of students to demonstrate integration.* • *All the TVs in the exhibit can be turned on by the same controllers. Any TV controller should work for any TV.* *Dr. Weitnauer's comments during the presentations:* • **Schedules** *in the presentations need to be updated and meaningful. Insert specific tasks into the schedules, so we learn something from the schedule.* • *As we turn more into integration, the* **subsystem block diagram** *is more important. Please review it before your next presentation and highlight any changes you make.* • *All EM projects should include* **fuses***, because eventually all projects will run on external power supplies. Please ask Clay or Kanav for help if you need it.* • *Clay tested* **Sandy** *using the modified Blender-produced* **animation file** *stored on the SD card to run the DC and servo motors, and it looked good, but the torso pan needs to be amplified. The modifications are linear transformations to the motor angles that the Blender team produced, to ensure the motors move in the desired ranges. The SD card file didn't have the jaw angle yet, however, for an unknown reason, Sandy's jaw motor responded and burned up in that test. Dr. W has ordered a replacement servo motor.* • *There is more shelf space for* **honeycomb cells** *on top of the black shelves on the left and on the middle shelf of the gray shelves on the right, as you come in the door.* • *The painting technique that creates a high gloss finish on the honeycomb cells may work well for the* **ticket booth** *"TICKET" letters.*

Meeting Dates		Meeting Notes
		Week 8 Section 2 Meeting • officially moving onto integration in sections to make sure everything works together • Cappy is still unfinished and remains a priority for the section as a whole

Meeting Dates		Meeting Notes
		Week 8 Section 2 Meeting

Meeting Dates		Meeting Notes

		Scribe notes:
		
		Section 2 Meeting Notes *- 10/10/24*
		Scribe: Lekhya Adari
		
		Shavon and Cho have been working on receiving pointing code through mediapipe and integrating through their code within Unity to replace the bee cursor scripts, however since they didn't commit / push their changes to main they were worried their changes were overwritten. However this was resolved after Lekhya mentioned that she stashed their changes on the local main branch of the lab computer before switching to her branch.
		
		Karla is currently working on switching the flower arduino code from the local machine to the lab computers so they can be run through the game network.
		Darin wrote the networking code for integration for the flowers last semester, she tried to change the code but it wasn't running like it was supposed to outside of the local machine which isn't great.
		
		Section 2 intro and outro cutscenes still have not been implemented / cued by section control and this is important for integration especially prior to the first dress rehearsal. However when Lekhya inquired whether the cutscenes were finished Mackenzie was not sure, she assumed they were since it was not on the task list (other than Cappy's narrator animations). After looking through the Unity files and scenes it
		was determined that there were no cutscenes already created for the intro or outro and this would need to be worked on soon. Mackenzie volunteered to work on it atleast starting the cutscenes next week so at least the timeline code / script existed for Section Control to be able to cue it during gameplay.
		Next Milestones:
		• *Start integration between sub-teams:*
		  ○ *Make sure all audio is routed properly*
		  ○ *Test cuing arduinos and audio at the same time.*
		  ○ *Add intro and outro cutscenes to gameplay*

10/11/24		**Week 8 EM Sub-team Meeting (5pm)**
		• 5 finger pulse check exercise
		  ○ keep prompt communication with other members in mind (don't take more than a day to reply)
		  ○ ask questions in the general EM chat to start a thread on ways to accomplish a certain task if you're uncertain how to go about it
		• make sure to read portfolio instructions when writing for different parts of the portfolio

Meeting Dates		Meeting Notes
		Scribe notes:

10_11_2024 Meeting Notes

1PM Subteam Meeting Notes

Scribe: Karla De Jesus

5 finger exercise pushed to next week because Karla was sick
Updates:
    Javin
        had a meeting with Dr. W this week regarding my tasks and idling. I am going to meet with Clay about testing my code with the idling animations for some of the narrators. Preparing a demo for next week.
    Cameron
        pulled everything together with the strobe LED and in cloud LEDs. For the strobe: tested code and determined the circuit necessary from last year. For the in-cloud LEDs: design the circuit on kicad and began breadboarding. Tested the pulse code on one LED. I also met with Dr. W and we talked about arranging the clouds in a more immersive way, what circuits I should make, and integration with SPN.
    Amogh
        attempted to attach the Waving flowers servos to their 3D printed fixtures that connect them to the rest of the bush, but I realized that the bolts I was using became too small to properly secure the servos because the clearance holes were worn out. I plan to work with Kanav to redesign and reprint the fixture because I don't have much CAD experience. I also discussed system integration with Dr. W and listed people to reach out to.
    Andy
        tired to have everything I needed for the mushrooms printed this week so I could start assembly but that took longer than expected. I talked to Raymond yesterday about the code and electronics, and he said he would start testing the functionality. I'm hoping to have everything printed by next week so that everything is ready for integration.

Meeting Dates		Meeting Notes

		10_11_24 EM Subteam 5pm Meeting Notes
		
		10/11/2024
		EM Sub-team 5PM meeting
		Scribe: Sue Nhan
		
		First half:
		Dr. Weitnauer came in to do the 5-finger-pulse check:
		   - Problems:
		        ◦ *Late replies*
		        ◦ *People not showing up for presentations*
		        ◦ *General communication problems*
		        ◦ *Disconnection between old and new members*
		        ◦ *Not knowing where to go for help*
		   - Actions to help:
		        ◦ *Don't be afraid to ask questions in the chat!*
		        ◦ *Dedicate time to work on the portfolio*
		        ◦ *Post set-backs in the channel*
		
		Second half:
		Portfolio instructions review:
		   - Some were confused about what to put in the portfolio
		   - The 'introduction' and 'related works review' sections shouldn't be too focused on the designs
		   - Darin and Karla will review the timeline for next Portfolio
		   - People should communicate to leaders if they can't make the deadline. Leaders were not expected to fix the content or references
		
		General updates:
		Hannah:
		   - Built flower structure, attach petals, should be done by next Thursday
		Darin:
		   - Went to the invention studio, test fit design, seems like it worked, hopefully new design will be done next week
		Thanh:
		   - Pre-drilled 6 more cells and got them painted
		   - Install LEDs next week
		Sue:
		   - Laser cut more frames, primed and painted those frames with Thanh
		   - Plan on assembling cells next week
		Raymond:
		   - Tested motor for spinning mushroom
		   - Tested LED, and integrated it with ESPN
		Kanav:
		   - Reviewed documents and worked on more CAD
		Clay:
		   - Worked on Sandy's jaw
		   - Made sure to do mechanical checks
		   - Sandy's mechanism also applies to Cappy
		Nathan:
		   - Copied old codes

Meeting Dates		Meeting Notes

		- Transition the code to use new materials
		Maika:
		  - Tested code without the ethernet
		Mukil:
		  - Worked on Snowy's beak assembly
		  - Some parts didn't work properly so plan on 3D print new parts
		Anushree:
		  - Installed fuses on Sandy
		Sarvesh:
		  - Figured out how electronics work for the ticket
		  - Researched for ticketing, plan on reaching out to Karla
		  - Plan on working with Dr. W to build things in the Hive next Saturday

Dates and To Do Boxes		**Personal Work Log**

10/8/24		**[X] Add code to prevent servo angles from trying to go out-of-bounds**
		  • Because the Unity values are not in the range that servos can take (0~180) and can be negative, the angles have to be adjusted through the code before being passed to the servos
		  • Looked at the angle range for the Unity angles, and adjusted them by a set amount to make sure they stay in the range that servos can take (will have to test actual values with Clay to ensure they still make sense and make sense with the animations that Xinwen has created)

TODO		**[ ] Test Arduino code physically (plans to test code that relates to Ethernet connections with Clay the week after fall break since their current priority is to finish up Sandy first)** **[ ] Test the replaced values and function after receiving angles and have readable values**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 9 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Oct 21, 2024, 12:45 AM EDT

Assignment #9 - Fa24 Week 9 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:24 AM EDT

Week 9 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Oct 21, 2024, 12:45 AM EDT

Meeting Dates		Meeting Notes
		Week 9 Main Meeting • section timelines should be more detailed • five-finger team exercises overview, mostly that more communication can be helpful

Meeting Dates		Meeting Notes

		Scribe notes:
		
		Main Meeting Notes 10_17_24
		
		***Main Meeting Notes** 10/17/24*
		
		Scribe: Heather Hernandez
		
		Announcements
		
		    Five-finger exercise revealed common grievances
		        Team members want more awareness of what's going on and who is having trouble
		            New members felt isolated and stuck with a unique task no one could help them with (often it wasn't so unique and working with others could have been beneficial)
		            More sharing (i.e. in the Teams sub-team channel) would be helpful for identifying who to work with
		    Titan X graphics cards from BMW will need to be installed in the sections 1, 2, and 3 lab computers
		        These computers will be unavailable while being upgraded
		    Dr. Weitnauer will begin reaching out to people necessary for section control integration tasks as well as to those who will demonstrate other key points of integration
		
		Comments During Presentations
		
		    Need students using the router table to finish their work, so they can put the router table away
		    Talk to Dr. Weitnauer if you have ideas for interesting player gameplay information that could be collected by MySQL
		    Update section presentations to use simpler subsystem block diagram (see section 1 presentation for example)
		    Update section task schedules to include more small/individual tasks

Meeting Dates		Meeting Notes
		Week 9 Section 2 Meeting • general updates on individual tasks • worked on updating the section 2 timeline to be more detailed and specific for the section
		Week 9 Section 2 Meeting

Meeting Dates		Meeting Notes
		Scribe notes: N/A

10/17/24		Meeting with Dr.Weitnauer
		• tasks from meeting:
		  ○ test with physical replica eyes
		    ■ test if a positive value means up for the eye motor angles
		  ○ test the linear functions that were created with 2 test curves:
		    ■ generate a file with 2 columns (e.g. sin and cos)
		    ■ graph of 6 curves
		      ■ 2 - fake mid height y coordinates to simulate reading off card
		      ■ 4 - short and tall (2 for each height)
		  ○ send follow up msg to clay (which was done and meeting was set up for 10/18, notes seen below)
		• maybe record a video with replica eyes alongside the animation video to see how they compare
		• plot eye angles for tilt (y) as well (similar to the graph already in a previous lab notebook entry)

10/18/24		Meeting with Clay
		• code should interface with the main Cappy control code
		• control code for animatronics: checks if an animation file should be playing, playing that, read angles and updating servos
		  ○ Clay sent me Sandy's control code as reference
		• eye angles will already be read from the update function of the control code (the angles will be adjusted by my code, assuming Cappy looks at player all the time)
		• I need to write current code into an eyeServoWrite (value written to servo) function for holding logic for adding offset and truncating (using .writeMicroSeconds)
		• servos are written in microseconds (PWM signals) since diff servos have diff range
		  ○ linear functions should also be converted to microseconds
		  ○ find range in microseconds experimentally with replica eyes (by sweeping)
		  ○ install by writing min to servo while putting it in place (0 position corresponds to mechanical 0 position)
		• test by writing an array of all the values I want to test and write angles, iterating through them (write angle[i] then iterate up to go through array @ every 20 ms), millis()
		• height variable is updated by network function which is part of control before the servo writing function is run (no worrying about threading because of Arduino structure)

10/18/24		**Week 9 EM Sub-team Meeting (5pm)** • need to finish working on a general draft of the next parts of the group portfolio by next meeting (AKA 5pm on Friday) • next GitHub commit due on Sunday

Meeting Dates		Meeting Notes
		Scribe notes:

Scribe notes:

10_18 EM 1pm

1pm Sub team Meeting Notes

Scribe Karla De Jesús

5 Finger Exercise
    Action Items:
Communication - instead of just <u>an</u> written update, would like to see in-person what is happening. Set aside about 10 minutes per meeting to have some members show what they are doing in the lab. Use the sub-team channel for informal updates.
People being late, some very late, with their deliverables. Move the deadlines <u>to be</u> a little earlier.

Announcements
    GitHub <u>commit</u> due
    Lab notebook due
    Try to have a demo in the project in around a month but before section run-through
Updates:
    Javin
        Code that was sent by Clay wasn't fully complete, working on integrating it with his code
        Javin to complete the code around the time for the commit deadline
    Karla
        Sick so can't do much
        Finished decorating the yellow flower
        Worked on Ethernet connectivity code with Darin
    Cameron
        Focusing more on integration
        Reaching out to people
            i.e. Michael
        Aim to get integration done soon
        Going to start proto-boarding circuits and redefining code
    Andy
        Printing in the hive and will begin assembling soon
    Amogh
        Went to Kanav for help
        Communicated with people section control
    Anna
        Doors are set up to be rehung soon

Meeting Dates		Meeting Notes

		10_18_24 EM Subteam 5pm Notes
		10/18/24
		
		EM 5pm Meeting Notes
		
		Scribe: Mukil Sundaravadivel
		
		GENERAL ANNOUNCEMENTS:
		
		Final portfolio draft due in 2 weeks
		
		    Refer to previous portfolio
		    Some parts will still be in progress, just do your best to emulate what will be there at the end of the semester
		    *Should be at least an outline of all of these sections **written by next week (before 5 pm 10/25/24)***
		Github commit due this week
		
		    Try to add things that are relevant to task
		
		INDIVIDUAL UPDATES:
		
		Sarvesh – Working at the hive soon, items for ticket booth have been ordered and arrived from Home Depot
		
		Darin – Finishing up barcode scanner enclosures and working on outer shell
		
		Sue – Assembled more cells, planning to stream lights by next week
		
		Thanh – Attached back pieces to honeycomb cells, planning to cut plastic diffusers
		
		Anushree/Tray - Went to the lab, worked on the code for dance animation for Sandy, still trying to fix problem of finding sine wave for code, talked about researching other methods
		
		Hannah – Attached stem with the bottom structure for flowers, starting to work on integration with Karla
		
		Nathan – Working on updating work to github repository
		
		Clay – Worked on Sandy's mouth servo, had to cut him apart to access servo. Met with a few people for their project – Michael (James the jaw),
		
		Kanav – Met with Dr. Weitnauer and finished design for Sloth, met with Clay and working mainly on Cappy
		
		Maika – Worked on Cappy's code to make it easier for integration, need to test code on replica set for Cappy
		
		Mukil – Met with Dr. W, talked about integration and waiting on 3-d printed parts to finish the prototype assembly.
		
		Raymond – Tested LEDs with wires for spinning mushrooms, one of the motors for the spinning motors doesn't work well. Working on code for integration using hanging clouds code.

Dates and To Do Boxes		**Personal Work Log**
10/19/24		**[X] Edit servo code to be more fit for integration** • Based on what Clay said about integration and code flow for Cappy and the other animatronics, better to have a single function that takes in the angle to control the eyes • Removed code that relates to the network • Wrote test arrays and code to run through said arrays for each servo • Planning to go to the Hive to borrow an Arduino to test code with during the week
TODO		**[ ] Test Arduino code physically** **[ ] Convert degrees into microseconds for the write servo function**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 10 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Oct 27, 2024, 11:56 PM EDT

Assignment #10 - Fa24 Week 10 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 07, 2023, 11:26 AM EDT

Week 10 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Oct 27, 2024, 11:55 PM EDT

Meeting Dates		Meeting Notes
10/24/24		**Week 10 Main Meeting** • Continue working on parts of task that require integration • If first assigned task is done, talk to Dr. Weitnauer to move onto another task (most likely an integration task) that needs attention

Meeting Dates	Meeting Notes

	Scribe notes:
	
	 Main Meeting Notes 10_24_24
	
	 Main Meeting Notes *10/24/24*
	 Scribe: Tyler Parker
	
	 Announcements / Updates
	     Pointing has been connected with Mr. Bee on the TV! Few small errors with coordinates but exciting progress.
	     Kanav assigned to lead work on Cappy. Ivan Peshev is finalizing wiring on Cappy
	     Sandy can move according to cutscene. Automated method is working well.
	         This will let us add animations to Sandy very easily moving forward
	         Automations for other robots will hopefully speed things up as well
	
	 Presentation Notes
	     Section 3 Presentation Comments
	         Presenters: Raymond Yao, Andy Ho, Trey Crawford
	         Potential LIDAR demo on Friday
	         More visual aspects of presentations would be nice (ladybug swarm video, etc.) to show off to the class
	     Section 4 Presentation Comments
	         Presenters: Subhasini Udhyakumar, Nathan Casimyr, Yuchan Cho
	         One Arduino controlling honeycomb cells, circling bees, and sliding doors in diagram – want to see actual number of Arduinos and specify whether mega or uno on diagram
	         Talk about ML data collection scheduling
	         Focusing more on stop-gap approach than ML for pointing in section 2. Might also be used for section 4 if ML doesn't work

Meeting Dates		Meeting Notes
		Week 10 Section 2 Meeting • Continue working on tasks, had updates but integration talk will be next week

Week 10 Section 2 Meeting
• Continue working on tasks, had updates but integration talk will be next week

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 Section 2 Notes
		
		 Section 2 10/24:
		 Scribe: Mackenzie Williams
		
		 VASD
		
		     Working on ladybug animations (done from Blender)
		     Realized that the pollen dropping may need to be added to the scene (will check & add if necessary)
		
		 EM
		
		     Testing the eyes but the range of the replicas seems smaller than the actual one
		     Finished putting together flowers and plan to meet to make it so they can be controlled together
		
		 Need to start discussing more integration and testing (Lekhya not here today so not much to discuss on that end without her)

10/25/24		**Week 10 EM Sub-team Meeting (5pm)** • Worked on group portfolio after weekly updates

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 10_25_24 EM Sub-team 1PM Meeting Notes
		
		 10/25 EM Sub-team 1 PM Meeting Notes
		
		 Leader: Karla De Jesus
		
		 Scribe: Trey Crawford
		
		 Updates:
		
		 - Karla:
		
		   - Got code to work for the blooming flower circuit, all that remains is putting it together
		
		   - Plan to finish everything up today
		
		 - Cameron:
		
		   - Tested both circuits for hanging clouds
		
		   - Code and electronics work, so is now putting it all together
		
		 - Trey
		
		   - Met with Dr. Weitnauer about Sandy's dance code and is now able to move a servo arm according to a sine wave
		
		   - Will work on scaling for multiple servos and the DC motor and integration
		
		 - Andy
		
		   - All parts for the mushroom cap are finished printing
		
		   - Will talk to Dr. Weitnauer about a way to access the motor
		
		 Notes:
		
		 - Plan on a demo day for November 15th
		
		 - The draft of the group portfolio is due next Thursday
		
		   - Start working on something today
		
		   - Have everything done (including images, references, appendices) on Sunday so that starting Monday there can be a dialogue about what is due
		
		   - Section 6: What was done and what were the results
		
		     - A lot of information can be put in appendices

Meeting Dates		Meeting Notes
		- Section 7: How it all works, what you took away, and where all your parts (CAD files, code, etc.) can be found. - Section 8: Conclusions and future work - Appendices - Same format as the rest of the portfolio, each different mechanical component of the exhibit is in their own section - Group portfolio grades will be back soon
Meeting Dates		Meeting Notes

Meeting Dates		Meeting Notes

		10_25_24 EM Subteam Meeting
		
		October 25, 2024
		5pm EM Subteam Meeting
		Scribe: Sarvesh Tiku
		
		Discussion Points
		Darin
		    Plan to work on the subteam portfolio, adding sections 6, 7, and 8.
		    Target completion for these sections is by Sunday night or early Monday; all updates should be finalized by mid-day Monday.
		    Will include images and references in the portfolio.
		    Darin and Karla will release comments for review. Team members should address these comments promptly.
		    Ensure that everyone has Word installed, as the web version lacks cross-referencing capabilities.
		    Plan to wrap up all content by Wednesday; no new content should be added on Thursday/onwards
		    If anyone anticipates delays, notify Darin or Karla immediately.
		
		Updates by Team Members
		    Darin
		        Pending print tasks at the HIVE, assembly will not take as long
		    Sue
		        Worked on more static cells.
		        Received additional plastic sheets from Dr. W as current ones were too sheer and did not diffuse light effectively.
		    Thanh
		        Collaborated with Sue to assemble static cells.
		    Maika
		        Adjusting functions on the Arduino, but not achieving the expected response.
		    Anushree
		        Met with Dr. W and completed the sine function for Clay's dance.
		    Hannah
		        No major updates. Plans to meet with Karla for soldering and finishing decorations.
		    Clay
		        Progressed on circuitry for honeycomb cells.
		    Mukil
		        Assembled the snow's beak mechanism but is experiencing connection issues with the main body.
		    Nathan
		        Needed to force-push a commit to GitHub due to prior issues.
		    Raymond
		        Worked with Heather to improve mushroom and soldering processes.
		        Encountered issues with setting up Unity and data packets.
		    Sarvesh
		        Will continue working at the HIVE for building the upper cabinet pieces cut and ready to the ticket booth
		        Base frame ready, can paint it soon as well!

Dates and To Do Boxes		**Personal Work Log**
10/22/24		**[X] Test code physically** • Tested on an Arduino UNO R3 • Servos in replica can't go the entire range for servos

Meeting Dates		Meeting Notes
		45 (up) to 180 (down) degrees for tilt motor 68 (right) to 105 (left) degrees for pan motor - Info based on experimental testing; real eyes might have a different range - Used sweep template Arduino code to start at the middle, then increase range slightly every run to see what the limit is (AKA before the servo sounds like it started to stall and had to be unplugged) - Function code correctly adjusts angle value, but keep sending a value that is at the upper or lower limit, so continuing to readjust linear the function in Excel to see what works best
TODO		**[ ] Convert degrees into microseconds for the write servo function**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 11 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Nov 03, 2024, 9:21 PM EST

Assignment #11 - Fa24 Week 11 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Aug 19, 2024, 1:50 PM EDT

Week 11 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Nov 03, 2024, 5:08 PM EST

Meeting Dates		Meeting Notes
10/31/24		**Week 11 Main Meeting** • N/A and no scribe notes, this week's meeting is focused on section progress and integration

Meeting Dates		Meeting Notes
		Week 11 Section 2 Meeting • integration for most members is reliant on coordinating with other members to test code and figure out issues, especially relating to information that is sent across the section (e.g. getting information from Unity) • need to talk with Kanav on current Cappy progress to see if code is testable
		Week 11 Section 2 Meeting

Meeting Dates		Meeting Notes
		Scribe notes:

<div align="center">

10-31-24 Section 2 Meeting Notes

</div>

Section 2 Meeting Notes – 10/31/24

Scribe: Lekhya Adari

<u>*Updates*</u>

Karla: The Arduino code for the flowers is working and is able to send through ethernet. She did face some issues with the process, but it is working now, she plans to talk to Darin to figure out what possibly caused the issue and how to prevent it from happening again.

Hannah: Almost finished fabricating the last flower, she had an issue where she added the zip tie in the wrong place causing the flowers to not bloom fully, she plans to fix this issue by the end of this weekend.

Lekhya: met with Michael to test unity to server connection and that works. Still <u>has to</u> test narrator audio and Arduino sync.

Cho: Met with Shavon to integrate their code and they were able to connect to the Pose program to Unity! However, the pointing coordinates seem to be wrong because when the player is pointing up to down, Mr. Bee is moving right to left. Planning to fix this issue within his code and then meet with Shavon to test again. If this does not work <u>either</u> then he must meet with Dr. Weitnauer to rework the math.

Maika: Finished writing code for Cappy eyes. Is not able to completely test yet since Cappy is not completed yet, so she is unsure how to handle this. She reached out to Clay about Cappy's overall code and hers would just be added as a method so integration between her code and Cappy's overall code should be simple.

Mackenzie: Ladybug animations still need to be added to the placeholder objects in Unity. Initially when they were added, the offset was wrong, so the ladybugs were not going to the right places causing the numbers to look very misshapen. She would either need to hardcode the coordinates (which is not very efficient) or possibly reanimate them. She is planning to talk with Xinwen and / or Neha to try and figure out a solution for this issue. In the meantime, she is also working on pollen for the flowers and the intro cutscene, which should be completed this weekend.

Javin: Still hasn't tested idling on Cappy, waiting to test on Sandy first then use that code for the narrators in all the sections. He has to reach out to Clay about how far along this task has been.

Shavon: not here

<u>*Action Items:*</u>

Hannah: Finish the fabrication of the last flower and test with other flowers

Karla: meet with section control and SPN to test integration between unity to server to Arduino connection.

Lekhya: meet with EM and <u>SPN</u>t <u>o test</u> integration between unity to server to Arduino connection as well as testing Playing audio through the server (Michael and Heather already partly worked on this so it hopefully should not take too long).

Cho: fix his code, meet with Shavon to test. If that does not work, meet with Dr. W to rework the math.

Maika: meet with whoever is working on Cappy to test her eye movement code.

Mackenize: finish pollen and intro cutscene. Fix ladybug animations.

Javin: meet with Clay about narrator idling.

From Dr. Weitnauer: add a banner that warns the player a foreign barcode is scanned, and the section should not start.

Meeting Dates		Meeting Notes
11/1/24		**Week 11 EM Sub-team Meeting (5pm)** • need to work on portfolio; previously set deadlines should be followed • normal deadlines; keep integration deadline in mind

Week 11 EM Sub-team Meeting (5pm)
- need to work on portfolio; previously set deadlines should be followed
- normal deadlines; keep integration deadline in mind

Meeting Dates		Meeting Notes

		Scribe notes:
		11_1_2024 1pm
		Scribe: Karla De Jesús
		
		Updates:
		
		   Andy
		      Met with Dr. Weitnauer this week to talk about ways to make the electronics of the mushroom more accessible. We pretty much found that we could cut the supporting rods somewhere that allows the electronics to slip out and be easy to work with while also being easy to reattach. We also found parts that need to be replaced so I'll try to get everything done as soon as I can.
		   Terry
		      Finished the basic skeleton code for moving Sandy's motors/servos according and tested it with Clay, and it worked well. We also found out that if you truncate the sine wave it creates a jerking motion that could be interesting and applicable. Now we just need to tweak values to make the dance actually look like a dance and then work on integration
		   Cameron
		      Began integrating my work with section 1, michael and i got the main code to be working with the ethernet shield and sending cues to my board. We then worked with a bigger group, but need to get a more complete integration with lidar and unity section control code working.
		   Karla
		      Finished the circuit for the motors, adding the lights by the end of the week and met with Sarvesh to go over how the ticket booth works. Micheal had a question about the code for the pushbutton to generate the barcodes so next week we will meet to go over the code and make sure that everything is working as it should
		Announcements:
		
		   Same timeline for portfolio, expect comments to be up Tuesday at the latest
		   Github commit due Sunday
		   Lab notebook due sunday
		   Integration in 2 weeks!!
		2024-11-01 EM Subteam 5PM
		Scribe: *Darin Mao*
		Assignments:
		
		   Do the GitHub assignment
		   All portfolio draft deadlines remain the same as last week, but shifted a week
		Barcode scanner enclosures
		
		   all four internal structures assembled
		   outer shell was adjusted to print at the Hive
		Flowers
		
		   tested with Karla's code
		   mechanically attached too tightly, was adjusted to be able to bloom
		   decorations started, should be done this weekend
		Cappy
		   converted animations to microseconds

Meeting Dates		Meeting Notes

		had to make some adjustments to linear map
		Circling bees
		
		   printed a bee
		   gathered circuit components, needs to be built
		Snowy
		
		   cut alternate snowy as practice
		   inside is smaller than expected
		Cells
		
		   will try with existing plastic
		   LEDs just arrived
		Ticket booth
		
		   Met with Karla, will meet with Michael to get the printing working
		Mushrooms
		
		   Tested full demo integration of spinning mushrooms with Michael, Soham, Patrick, Heather, and Andy (unity and Python server), and the Arduino was able to receive data from the server but Michael had an issue with sending the correct values
		   Tested attaching mushroom cap to motor shaft and blinking the LED to light up the entire cap

Dates and To Do Boxes		Personal Work Log
10/30/24		**[X] Convert degrees into microseconds for the write servo function** • slightly changed formula used to adjust the angle from oldAngle + (mx+b) to oldAngle + (mx) where m is the scalar multiplier and x is the y-coordinate of the height of the player's eyes ○ AKA newAngle = oldAngle + setMultiplier * (eyeHeight - OG_HEIGHT_Y_COORD) where OG_HEIGHT_Y_COORD is the height 5'7" (which is the base eye height) as a y-coordinate • had to be converted to microseconds and tested to fit with the rest of the control code for the mechatronics (which all operate based on microseconds) • used the formula: microseconds = (degrees / 180) * (maximum pulse width - minimum pulse width) + minimum pulse width from https://discuss.bluerobotics.com/t/pulse-length-vs-degrees-vs-microseconds/443 • for pan motor: multiplier in deg = -90.854 min pulse width = 755.48 µs, 68 deg max pulse width = 1166.55 µs, 105 deg (multiplier/ 180) * (maximum pulse width - minimum pulse width) + minimum pulse width = - [(90.854 / 180) * (1166.55 - 755.48) + 755.48] = - [(0.504744444 * 411.07) + 755.48] = - [207.485299 + 755.48] = -962.965299 • for tilt motor: multiplier in deg = 21.0251 min pulse width = ~445 µs, 40 deg max pulse width = ~2000 µs, 180 deg (multiplier/ 180) * (maximum pulse width - minimum pulse width) + minimum pulse width = (21.0251 / 180) * (2000 - 445) + 445 = (0.116806111 * 1555) + 445

Meeting Dates		Meeting Notes
		= 181.633503 + 445 = 626.633503
	TODO	[ ] Test/review code with real Cappy once possible

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Meeting Dates		Meeting Notes

Fa24 Week 12 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Nov 10, 2024, 9:21 PM EST

Assignment #12 - Fa24 Week 12 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Jan 06, 2024, 1:44 PM EST

Week 12 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Nov 10, 2024, 9:21 PM EST

Meeting Dates		Meeting Notes
11/7/24		**Week 12 Main Meeting** • important updates for tasks and info everyone should know (seen in scribe notes) • talked to Dr. Weitnauer to discuss where Cappy's status is at (was unknown and meeting was conducted at 3pm on Friday between Dr. Weitnauer, Clay, and Kanav)

Meeting Dates		Meeting Notes
		Scribe notes:

Main Meeting Notes – 11-7-2024

Scribe: Dr. Weitnauer

Announcements

- *Today, each section determine in detail what you will be able to execute next week.*
- *Need folks who are finishing their tasks to shift to new tasks. If you know some Arduino or want to pick it up quickly, we need help with*
  - *Cappy*
  - *Resurrect honeycomb door opening & closing (was finished in Summer)*
  - *Swifty the sloth*
- *Geometric pointing method is implemented for Section 2. Boundary crossings will be detected in Unity. Honeycomb cells will be detected in the pose program.*
- *Painting: do any spray-painting in the Hive painting booth. Painting with a brush on a drop-cloth outside of the Hive might be OK. Please clean up after yourself, including cleaning off paintbrushes or other tools.*
- *Sandy's tutorial will be one long continuous cutscene, instead of three or four separate ones – contact Neha about that.*
- *Use terminal blocks or equivalent screw-down connectors in all mechatronics. The terminal blocks can be obtained from the ECE Senior Design office on middle corridor of Van Leer on third floor.*

A new desktop computer has been purchased and should arrive next week. It will have the Titan X graphics card that BMW sent us. I want to replace one of the slower section computers with this new one; Section 2 is a good candidate for replacement. The old computer will be kept as a back-up in case a computer is damaged or fails. SPN will need to install Mediapipe on the new computer.

Meeting Dates		Meeting Notes

		Week 12 Section 2 Meeting
		
		• game mechanics are mainly the focus of the first dress rehearsal
		  ◦ Cappy will be stationary and only the audio files will play
		  ◦ game will go through the intro and tutorial to confirm the pointing -> opening flower flow works so not all flowers need to be finalized for the purpose of the demo itself
		  ◦ the focus will shift to the entire game running smoothly for the 2nd dress rehearsal

Meeting Dates		Meeting Notes
		Scribe notes:
		Section 2 Meeting Notes – 11/7/24
		Scribe: Lekhya Adari
		Updates:
		Lekhya: Met with Karla and Michael for integration but we did not get very far.
		Karla: had an issue with her wiring and the distance between the flowers so she has to remeasure and rewire the slower arduino. There was also an issue with her bug converter that she's hopinh to fix by the end of the week.
		Cho: pointing works!
		Hannah: fabrication of last flower is almost complete.
		Maika: got into contant with Kanav but still unsure about the current progress of Cappy and when she will be able to test her code.
		Next Week's Demo Plan:
		Intro cut scene – Cappy mechatronic will not be used but his voice will play. Cappy explains to the player how the section is supposed to work. *Tutorial scene / Guided Round – The flowers light up and bloom in a specific order. Cappy guides the player and they point to the flowers in the right order, Mr. Bee pollinates flowers (if player points in the right order) one by one, and at the end of the round a number clue appears on the screen.*
		What we will not be demoing:
		LIDAR / section occupany or intrusion *Cappy Mechatronic*
		<mark>When we plan to meet: Sunday at 11 am</mark>
		Individual Action Items Specific to Demo:
		Hannah: finish fabrication (will be done by friday evening).
		Karla: complete arduino rewiring (will be done by meeting time on sunday).
		Mackenzie: finish intro cutscene.
		Lekhya: add function for cappy lines and add code to handle when player points to a flower (if wrong flower then cappy says something, if right then flower blooms) -> talk to Shavon. cue ladybug clue after right flower blooms.
11/8/24		**Week 12 EM Sub-Team Meeting (1pm)** • unable to attend meeting this week due to being in class during the meeting time (regular 5pm meeting was cancelled), but members sent updates to Karla to summarize in the meeting notes • everyone is mostly working with other members for integration and testing (has required coordinating meeting times with others)

Meeting Dates		Meeting Notes
		Scribe notes:
		Meeting Notes – Friday 11/8/2024
		Scribe: Karla De Jesus
		Updates:
		Karla
		Met to work on integration for the demo with Section 2, had to change some of the code to work with the overall server
		Sarvesh
		This week, I focused on finishing the entire frame of the ticket booth, including the upper cabinets, and cut pieces for the console. We could have started painting this weekend, but we didn't have the necessary materials, so Dr. W had to pick them up from Home Depot. I'll begin painting on Monday, and will start working on the ticket letters and the lighting for that!
		Terry
		come up with some maximum and minimum servo values for Sandy's dancing, and plan on testing them with Clay this Thursday.
		Maika
		talking to Dr. W and Kanav about Cappy's progress. I've been kind of stuck since any final testing is going to involve all of Cappy's code being done, not just mine.
		Cameron
		finished protoboarding my strobe led and have been testing that out with the arduino. I also have started building some more clouds. For integration, I need to get with section 1 again and set up everything with unity and lidar.
		Anna
		finally rehung the doors and adjusted the height, i marked out the holes but need to make the adjustments dr w wants. dr w is working on attaching the doors to the belt so they slide. she said that the electronics for the doors is already done and working as of the summer
		Raymond
		communicating with section 3 for our integration next week and following the story script to add more behaviors for controlling the mushrooms motors and LEDs based on cues
		Hannah
		Updates: finished attaching the blooming petals for the flower
		Blockers: None, I just need to find a time when I can be physically present at the lab
		Plan: I planned to go to the lab at 2pm today, but a last minute change happened to my schedule and I have to go back home this weekend. The new plan is to finish the decoration of the flower on Sunday evening. This will ensure that the flower is ready before the week of the demo
Dates and To Do Boxes		**Personal Work Log**
11/12/24		**[X] Status update on Cappy** • was unable to get substantial progress done on task, but got notified that Cappy's assembly and wiring were completed by Kanav and Ivan (hopefully! get to test code next week) • asked for info on the 3pm meeting that happened Friday since I was unable to attend
TODO		**[ ] Test code with real Cappy once possible**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 13 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Nov 17, 2024, 11:41 PM EST

Assignment #13 - Fa24 Week 13 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Jan 06, 2024, 1:44 PM EST

Week 13 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Nov 17, 2024, 10:49 PM EST

Meeting Dates		Meeting Notes
11/14/24		**Week 13 Main Meeting** • dress rehearsal #1 of all 4 sections *Scribe notes:* N/A
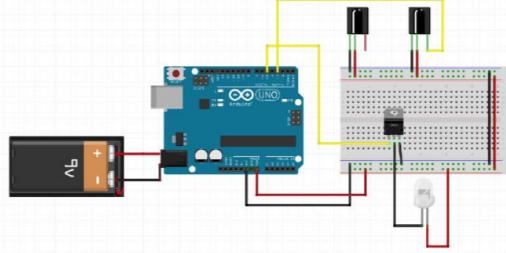
Meeting Dates		Meeting Notes
		Week 13 Section 2 Meeting • figured out where everyone's progress is on tasks and if anyone in the section needs help

Meeting Dates		Meeting Notes
		Scribe notes: *Scribe: Hannah Tsai* Section 2 Meeting 11-14-24 ### General Meeting (Section 2) 11/14/2024 *Updates* *Maika: Kanav, Clay, Dr. W met and said the Cappy mechanism mostly worked but the eyes kept falling out; they will try to figure out how to prevent the eyes falling out; eye movement range is minimal* *Hannah: I attached more petals to the purple flower. Some concern is the petals droop down and do not stand up in an aesthetically pleasing way. Will attach more petals to help petals support each other and not droop down* *Karla: We met on Sunday and yesterday (Wednesday); able to get the Arduino connect with the server. Server can send a message to the Arduino.*
11/15/24		**Week 13 EM Sub-Team Meeting (5pm)** • figured out what everyone still needs to do to complete their tasks before the end of the semester (rather than just general updates like we did every other week)

Meeting Dates		Meeting Notes
		Scribe notes:

Scribe notes:

11_16_2024

1PM Meeting Notes
Scribe: Karla De Jesus

Javin
  Talking with clay for integration testing with clay
  Focus on cutscene testing
  Can focus on idle movements this upcoming week
Amogh
  Worked with Tinisi to test the waving flowers, but had a server-side error
    Client already connected to the server side socket
    Mechatronic can shut down when an intrusion is detected

Andy
  Needs to do minor adjustments
  Replacing some of the wires
  Did some lidar adjustments

Anna
  Measured out the holes for the honeycombs and can cut the doors
  Right door is broken so it needs to be fixed
  Door should be attached to be the belt as well

Cameron
  Met with Michael to do a full integration test
  Everything works with unity and lidar
  Finished working on the strobe completely so it works as expected
  Started on the other led control.

Karla
  Met up to begin integration with section 2
  Was able to connect the Arduino to the overall python server
  Was able to receive messages from the section 2 server, but nothing was being sent through
  Needs to reach out to Michael to fix this problem

Announcements
  Group portfolio is due Tuesday when we come back from break
  Try to start compiling stuff for the appendix so that next week it is added to the group portfolio
  Lab notebook due Sunday
  GitHub commit due Sunday

Meeting Dates		Meeting Notes

		2024-11-15 5PM
		
		Scribe: Darin Mao
		
		We will start portfolio work next Friday (11/22). It is due a bit more than a week from then (12/3).
		
		What remains for each project?
		
		Barcode Scanners
		
		    Painting
		    Possibly gluing mounting hardware to the enclosures
		Flowers
		
		    Attach more petals, waiting for glue to dry between layers
		    Tape stems
		Honeycomb
		
		    Better plastic covers were found, new ones need to be cut
		    Finishing touches on wood extensions on some cells
		    Test LED lights
		    Install limit switches, need some smaller screws
		Mushrooms
		
		    Install slip ring
		    Build an enclosure, and attach it to the exhibit
		Snowy
		
		    Top priority is changing attachment mechanism to fit
		    Waiting on animation files
		Bees
		
		    Print remaining parts, assembly
		    Wiring
		Cappy
		
		    On hold for now
		Spotlights
		
		    Just testing, since it was already working before
		Ticket booth
		
		    Curtains
		    Finish center console, do electronics

Dates and To Do Boxes		**Personal Work Log**
11/16/24		**[X] Start on new task (spotlight placement)** • reviewed old information

Meeting Dates		Meeting Notes
		- spotlights likely haven't been worked on since Fall 2024 <u>Spotlights</u> A new feature of the exhibit that we are introducing this semester is the spotlights. Each section of the exhibit will contain spotlights that will shine on the mechatronic characters so that players are drawn to them. Section 1 will have one spotlight shining on Snowy the Owl, Section 2 will have one spotlight shining on Cappy the Caterpillar, Section 3 will have 1 spotlight for Sandy the Snake, and Section 4 will contain two spotlights shining on the honeycombs and bushes. This semester, the Spotlights task group is focused on implementing a smooth intensity light change through PWM (pulse-width modulation) control on the Arduino UNO board. The goal of this feature is to better illuminate the characters in each section and make them stand out to users.

Meeting Dates		Meeting Notes
		Arduino[16]. The wiring and coding of the circuit proved to be a challenge, as we found the connections and technicalities of the circuit to be somewhat different from the circuit diagram we had created in the simulator. Thus, the diagram in *Figure 15* from the Arduino Stack Exchange helped us visualize the wiring between the Arduino, the power adapter, the MOSFET, and the LED. *Figure 15:* A more detailed wiring diagram for the Arduino with an external 9V power supply [16].

Meeting Dates		Meeting Notes
		Spotlights for Narrators As specified above, our final prototype for the spotlights includes a functional circuit and diagram for two spotlights, controlled independently with smooth light intensity fading capabilities. *Figure 57* shows our finalized, functional circuit for two spotlights, as will be implemented in Section 4 to shine on the circling bees. Figure 57: Circuit for two spotlights with a smooth brightness intensity change This circuit design meets all the requirements and specifications of the spotlights on narrators for all 4 sections, although the number of spotlights varies depending on the section and its narrators. The circuits have also been soldered for 3 of the 4 sections. The next step to final integration and implementation with the other components of each section is to integrate the Ethernet reception commands into our code and allow the spotlights to be controlled via remote Ethernet signals (TCP/IP packets) instead of through serial inputs. A bill of materials is shown in *Figure 58*. - need to use buck converter when testing with Arduino to prevent too much voltage from reaching it (goal is to get it from 12V to ~7V) - spotlights should be soldered and built, just need to make sure they work - need to attach tubes to the spotlights to create a more concentrated light beam - need to figure out where to place spotlights on the wood to highlight mechatronics the best - need to contact section leaders to figure out what Arduino to connect the spotlights to in each section (e.g. circling bees Arduino in Section 4) but will likely be the Arduino controlling each animatronic
TODO		[ ] Test code with real Cappy once possible

Figure 57: Circuit for two spotlights with a smooth brightness intensity change

List of Part	Quantity	Unit Cost	Total Cost
Arduino Uno	3	$27.60	$82.80
N-type MOSFET	4	$0.80	$3.20
Breadboard	3	$2.20	$6.59
Spool of wire	1	$15.00	$15.00
Spool of solder	1	$10.43	$10.43
10K Resistors	4	$0.55	$2.20
Total			$120.22

84

Figure 58: Bill of Parts for the Spotlights

This page is to be submitted through Canvas, at which time it will be locked for further editing.

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 14 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Nov 24, 2024, 11:23 PM EST

Assignment #14 - Fa24 Week 14 Personal Work & Accomplishments

Description	Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade	**(Enter grades using Speed Grader™ in Canvas)**
Submitted	

Mary Ann Weitnauer (mi6@gatech.edu) - Jan 06, 2024, 1:44 PM EST

Week 14 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Nov 24, 2024, 11:23 PM EST

Meeting Dates		Meeting Notes
11/21/24		**Week 14 Main Meeting** • 2nd demo day 　○ playtested section 1 and 3 games but pointing games still aren't functional (AKA sections 1 and 4)

Meeting Dates		Meeting Notes
		Scribe notes: N/A

11/22/24		**Week 14 EM Sub-Team Meeting**
		• group portfolio is due soon and is a priority to get done
		• final presentation video due this week
		    ○ max of 5x minutes long (x = credits signed up for)
		    ○ example script on canvas

Meeting Dates		Meeting Notes
		Scribe notes: N/A

Meeting Dates		Meeting Notes

		Scribe notes:
		
		 20241122 1PM Meeting Notes
		
		 Updates:
		
		 • *Javin*
		  ○ *code for random idling needs to be tweaked for Sandy. I'm going to put my materials in for the appendix today by the evening*
		 • *Cameron*
		  ○ *Worked on the LED Control for the clouds*
		  ○ *Put up the beams with Dr. Weitnauer*
		 • *Anna*
		  ○ *Recut the holes for the doors*
		  ○ *Should be all good and bigger and added an extra piee*
		  ○ *Pretty close to finishing the doors*
		 • *Terry*
		  ○ *Finished the dance code for Sandy*
		  ○ *Sandy is not integrated, getting back in touch with Clay to discuss integration*
		 • *Amogh*
		  ○ *Was able to set up integration*
		  ○ *Not recieving cues properly*
		  ○ *Needs to find cause for the problem*
		 • *Karla*
		  ○ *Was able to set up integration between Python servers and flowers*
		  ○ *Wants to ensure that pointing is correct for the flowers*
		
		 Announcements
		
		 • *GitHub Commit and Lab Notebook Due*
		 • *Send an announcement when GP is graded so that we can start working on it*
		 •

Meeting Dates		Meeting Notes
		2024-11-22 5PM Scribe: Darin Mao The group portfolio is due in a bit more than a week. Please try to get the main content done by Tuesday (11/26) so we have enough time for editing. All remaining todo items from previous drafts should be resolved or removed. You should expand the final design section so it is very detailed. The final GitHub assignment is due this Sunday (11/24). The final video presentation is due Thursday (11/28), directions are on Canvas. Final peer evaluation and CIOS is also available soon. Sliding Doors - *Door motors were retested and they work fine* - *Developed an algorithm for moving between open and close states smoothly* Spotlights - *Tested spotlights* - *Designed and built attachment mechanisms* Ticket Booth - *Painting is nearly complete* - *Started work on tabletop* Honeycomb Cells - Fixed LED wiring Flowers - Done! Mushrooms - *Added some slip ring, soldered LEDs on* - *Wiring is done, seems to work fine on its own* - *Some issues with connecting to Python server* Snowy Owl - *Cut into prototype, fit is okay* - *Waiting on animations from VAD*
Dates and To Do Boxes		Personal Work Log
11/21/24		**[X] spotlight work day** - contacted Lekhya about whether there are spotlight cues in the Unity game and although there was someone working on it last semester, nothing in the section control code itself - looked at existing GitHub code from spring 2024

Meeting Dates		Meeting Notes
		- tested 2 spotlights (section 4 specific): - downloaded LEDFade2Spotlight.ino and Section4SpotlightControlViaKeyboard.ino to test from the GitHub - the Arduino with 2 spotlights attached had pins 10 and 11 as the output pins for the 2 lights, but pin 10's wire was broken off and there was a piece of the wire that was stuck in the Arduino - tried to get it out but not sure if it's possible? (plugged the wire that was in the pin 10 into pin 9 instead for now) - both of the tested programs work - there's a leftover breadboard that I assume is from when they were testing 2 spotlights? - tested 1 spotlight (used for sections 1, 2, and 3): - downloaded LEDFade1Spotlight.ino and 1_spotlight_keyboard_control.ino - there only seem to be 2 spotlights within the box? but need 3 for all 3 sections - noticed that the EM group portfolio from last spring states circuits have only been soldered for 3 of the 4 sections so we might need to order another spotlight - both tested programs work - made extensions for the ends of the spotlights out of cardstock (made the light much more narrow compared to without the attachment)
TODO		**[ ] Test code with real Cappy if possible** **[ ] Build/solder another spotlight circuit** **[ ] Confirm cues have been put in place for spotlights (contacted Lekhya and someone was working on it but need to figure out if already completed work still there)**

This page is to be submitted through Canvas, at which time it will be locked for further editing.

Fa24 Week 15 Lab Notebook Personal Work & Accomplishments

Maika Hirata - Dec 01, 2024, 8:37 PM EST

Assignment #15 - Fa24 Week 15 Personal Work & Accomplishments

Description | Use this space to keep track of your intended tasks and to keep a journal with artifacts about what you have done each week.

Grade   **(Enter grades using Speed Grader™ in Canvas)**

Submitted

Mary Ann Weitnauer (mi6@gatech.edu) - Jan 06, 2024, 1:45 PM EST

Week 15 Personal Work & Accomplishments, Artifacts, Recommendations, and Reflections

Maika Hirata - Dec 01, 2024, 8:37 PM EST

Meeting Dates		Meeting Notes
N/A		No formal meetings this week due to Thanksgiving break
Dates and To Do Boxes		**Personal Work Log**
11/26/24		Spotlights work day: • attachments are on the spotlights using pipe cleaners • tape alone wasn't enough to keep the attachments secured tightly, and with pipe cleaners, the attachments are easily removable in case they need to be changed • since Cappy was the only animatronic currently in its final place, tested to see where his spotlight could be placed, and the location doesn't seem to matter that much since the attachment prevents the light from blinding the player (will mostly depend on which Arduino the light will be controlled from) • at least with Cappy's spotlight, it doesn't seem like there will be any extra wire necessary when setting it up since the wire that is already connected from the spotlight to the circuit itself seems to be enough
TODO		**[ ] Test code with real Cappy if possible** **[ ] Build/solder another spotlight circuit**

This page is to be submitted through Canvas, at which time it will be locked for further editing.