

# VIP: Future of Esports

## Team 1: Fan Experience

**Betsy Tuggle**

[etuggle3@gatech.edu](mailto:etuggle3@gatech.edu)

*Team Members*

*Sophia Lin, Ethan Zhao, Triem Lee, Nicholas Chang, Mansi Gupta, Taelyn May*

Fall 2023

# Team Contact Information

**Betsy Tuggle**

Email: [etuggle3@gatech.edu](mailto:etuggle3@gatech.edu)

Discord: sockB\_

**Sophia Lin**

Email: [slin393@gatech.edu](mailto:slin393@gatech.edu)

Discord: tea.szl

**Triem Le**

Email: [tdinh41@gatech.edu](mailto:tdinh41@gatech.edu)

Discord: cottoncookie

**Taelyn May**

Email: [tmay41@gatech.edu](mailto:tmay41@gatech.edu)

Discord: mayfly14

**Mansi Gupta**

Email: [mgupta354@gatech.edu](mailto:mgupta354@gatech.edu)

Discord: dibidibidoo

**Ethan Zhao**

Email: [ezhao@gatech.edu](mailto:ezhao@gatech.edu)

Discord: ayozech

**Nicholas Chang**

Email: [nickchang@gatech.edu](mailto:nickchang@gatech.edu)

Discord: nick7685

*Date: 8/31/23*

## Research

I decided to look a bit more into the functionality behind things like the Universal Harry Potter wands and the interactive queues in Walt Disney World to find a basis for the technology we are researching. I came across a video explaining exactly how the Harry Potter wands work and how to create them yourselves for the price of about \$5, which I would like to explore at some point. Using this could provide deeper insight into the best course of action for interactivity at Esports events. Here is the list of findings:

- Attach an LED light to any object and use it on an LED sensor to trigger an event (<https://www.youtube.com/watch?v=ZuRIQu0oQAA>)
- You can recreate it at home using a certain software (<https://www.youtube.com/watch?v=50nyCEp56UA>)

It might be worthwhile to get contacts for the people who worked on creating these sorts of interactive experiences to get their insight and input on our ideas.

*Date: 9/1/23*

## Playtesting Brawlhalla

This morning, I downloaded Brawlhalla for free on my Nintendo Switch and played the game for the first time. Here are some things I noticed.

- There are a LOT of characters, both original and from partnered franchises. Connecting a player to their most played character will be a lot of work.
- It doesn't really have a full tutorial. When you log in, the first thing you see is how to set yourself up for an online match but not actually how to play. There is a tutorial section, but it's hidden and not very detailed.
- All the characters pretty much play the same because all attacks are heavily dependent on acquiring weapons that appear throughout a match.
  - The melee weapons are randomized, so you never know if you're actually going to get the weapon you want.

## Weekly Meeting

We went through our team contract and what we need to establish in order to work smoothly together. We also started a Trello to keep track of the assignments we have and what we need to do. I am currently assigned to work on the Animation side of things and am waiting to receive assets from Brawlhalla.

**TO-DO:** Write email to Mateo at Brawlhalla to receive assets

Research puppet-rigging for animation

*Date: 9/5/23*

## Puppet Rigging vs. Hand Drawn Animation

I researched more in-depth into puppet rigging since that is most likely what form of animation is being used in the Brawlhalla gameplay. To summarize, puppet rigging is essentially the same as 3D animation but on a 2D surface. You create a model from a model sheet that is designed by a character designer and then rig that model. The research I've found shows that Adobe Animate is what is used to create puppet models a lot of times, which is convenient because that is the software I use for hand drawn. Speaking of which, I need to go into more detail about hand drawn animation as well. Hand drawn animation is what I am

most familiar with and is what Brawlhalla uses for their animated shorts on their YouTube channel. Since hand drawn animation is more of a special occasion format for Brawlhalla, this format is what I believe we should be using to create our fan experiences. Here are the assets that would be useful to receive from Brawlhalla.

- Character model sheets
  - This would allow me to more accurately capture a character's likeness if they wanted a better example of what the experience would look like if I'm doing hand drawn
- 2D puppet rigs
  - Hand drawn animation can get expensive, so if they would rather see how the rigs look in this experience, I would need their rigs / a rig if they only want to give one.

The model sheets would be incredibly useful; though if they want a general idea of what something would look like, I can manage that just from my own skills. If they wanted to use the puppet rigs though, I would absolutely need a rig from them to use as I am not a rigger and do not know how to create a rig effectively yet.

- Hand drawn animations of Brawlhalla YouTube channel
  - <https://youtu.be/Mx25Q3LKQ9Q?feature=shared>
  - <https://youtu.be/H3UdpeEOw0?feature=shared>

*Date: 9/12/23*

#### Writing an Email to Mateo (Sophia Lin & Myself)

I worked with team leader, Sophia Lin, to compose an email to send to our Brawlhalla connection, Mateo. We composed this and asked for assets that would help me complete sample animations for our research. The email read as follows:

*Hello Mateo,*

*My name is Betsy, and I am the current animator for the Fan Experience project as part of the Esports Experience VIP team at Georgia Tech. We are so excited to work with you towards bettering out research and technology. As a result of our meeting last semester, we wanted to reach out and see if we could request some assets to use for animations in our project. If possible, it would be ideal to receive the assets for the following Legends:*

- *Bödvar*
- *Cassidy*
- *Lord Vraxx*

*The assets we would like to have for each Legend are:*

- *A model sheet for the Legend*
- *A 2D puppet for the Legend*
- *The Legend's color palette*

*We hope to use these assets to create custom animations that allow players to interact with their favorite Legends at events. If we are unable to receive these assets, we will work on creating a generalized demo to present to you later on. Lastly, we wanted to verify what software your team uses for animation. Based on the video, "Animating Vector," on YouTube, it looks like the team uses Adobe Animate? If that's incorrect, please let us know. We look forward to working with you this year!*

*Thank you,*

*Betsy Tuggle*

*Date: 9/17/23*

#### **Brawlhalla Character Breakdowns: Bödvar**

I searched online for as many references as possible to one of the characters we requested assets for, Bödvar. I dissected his design to basic elements so I could better understand how the character works in animation and design. I started working on an illustration of the character to solidify my understanding that I am still in the process of completing. Here is the dissection of the character as well as the sketch of the illustration.

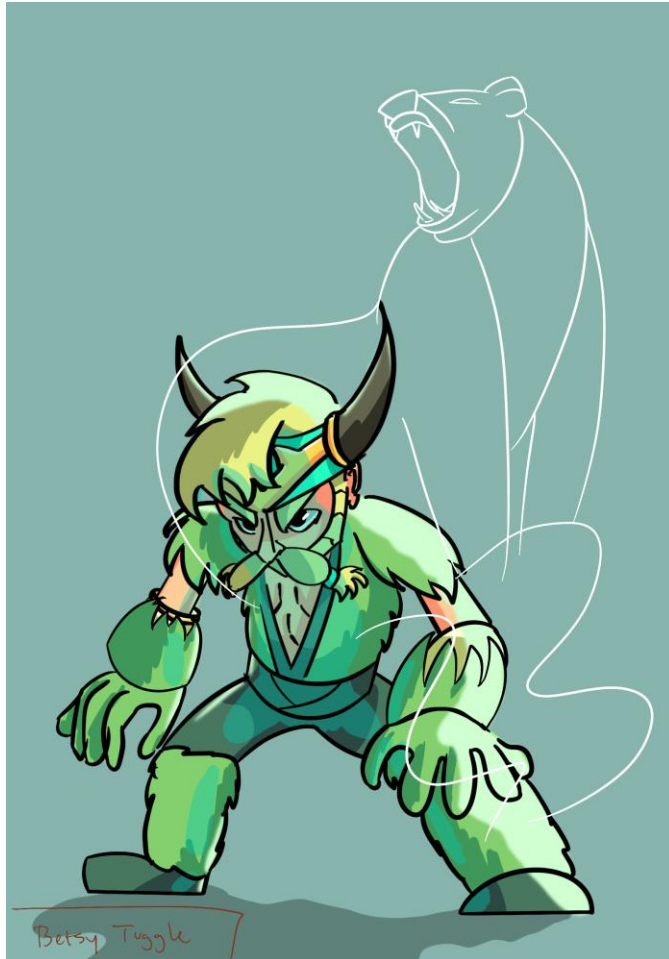


TO-DO **Finish Bödvar dissection illustration**

*Date: 9/19/23*

### **Bödvar: Coloring Illustration**

I continued coloring and outlining the Bödvar illustration I am working on. The purpose of doing this is to understand how I would best color the character once animated and how lighting works around him. While the illustration might not be perfect, it is a part of the Dissection phase of understanding his design, character, and how I should go about animating him when the time comes. I will soon do this with the other characters I requested from Brawlhalla. For now, here is the current state of the illustration. I most likely will redraw the bear silhouette once I actually practice drawing bears and figure out the best brush to use for the flames.



*Date: 9/22/23*

### Weekly Meeting

We talked about our Gantt chart mishap and then continued to go over questions from new member onboarding. Afterwards, we went through each sub-department to talk about what we did this week. The prototyping team has been hard at work with their research in the Inventure Studio and has learned a lot faster than they initially expected. The backend team is trying to decide whether to move forward with Unity after the recent controversy. I told them about my character dissections and showed them my illustration (which they liked). My plan for next week is to replicate the Brawlhalla test animations found on YouTube.

**TO-DO** Replicate/analyze brawlhalla test animations

*Date: 9/25/23*

## Analyzing Test Animations

I began analyzing the test animations from the Brawlhalla YouTube while awaiting the art assets from Mateo. This allowed me to understand the basic shapes the animators break the characters down into, which is very useful for maintaining a quick animation process.

*Date: 9/26/23*

## Animation Progress

I began working on my animation due in October for the event application. It is a 2D animation, and I have completed the rough animation. Still need to adjust the timing and spacing to make it flow better. Follow this [link](#) to see the rough.

This stage of animation is commonly known as the "first pass". The first pass is typically done to prioritize the feeling of the animation rather than accuracy to the model of the character. Animation is known as "The Illusion of Life" after a book created by some of the original Disney animators (AKA Disney's Nine Old Men), Frank Thomas and Ollie Johnston so making the character feel alive is always the first priority.

**TO-DO** Finish animation by the end of Oct. or beginning of Nov. (in line with Gantt chart)

*Date: 10/1/23*

## Animation Progress

I've made more progress on the animation. I added the line art and just need to clean it up a bit more before moving on to adding more details, such as the clothes (that sounds more sus than it actually is). Here's the [link](#) to the progress.

This stage of animation is the "second pass" or "tiedown". A tiedown is meant to solidify the proportions of the model and create lineart to emphasize the actual poses. The tiedown is not necessarily complete animation since it doesn't have to have all of its in-betweens (the drawings between the main drawings that make the animation flow smoother). I still have more frames to create for this section of the animation.

*Date: 10/13/23*

## Group Meeting

We went over our Gantt chart and what to reconsider with timelines and went over updates with our group. The prototyping team has a physical keychain now that they made in the Inventure studio and are now researching RFID options to give them functionality. Backend has been exploring the Brawlhalla API and discovered that even though there isn't an official one, there is a fan-created one that accesses the API. I updated the group on my animation progress.

*Date: 10/15/23*

## Animation Progress

Finished up the main line art and adjusted the timing to be a lot better. Now, my goal is to add the clothing details and then color. [Link](#).



*Date: 10/17/23*

## Class Time

Today, we learned how to organize our VIP notebooks. They should be extremely detailed and have a bit of a narrative to them. They also should include the accomplishments of our team.

*Date: 10/23/23*

## Class Time (Team Presentations)

As a team,, we presented our team's progress towards our goal of creating a working prototype of the keychains for Esports events. I presented my animation progress and discussed how we need to reach out to Mateo, our Brawlhalla representative, so we may still yet receive assets. I gave him more time in my section of the Gantt chart to respond.

*Date: 10/30/23*

## Animation Progress

Did the final push for the line art of my animation so I may begin coloring. I hope to finish coloring before class time tomorrow, so I may include it in my notebook when I turn it in.

This "third pass" of animation happened to be my final one; however in industry, an animation can go through several more passes depending on the type of shot. If there are multiple objects/characters moving in a scene, it can take multiple passes to perfect the movement of each object. The third pass in my case helped me complete my in-betweens and my lineart, which allows me to proceed with coloring.

*Date: 11/5/23*

## Animation Progress

I completed the base coloring of my animation and am hoping to be completely finished by the end of the week. Here is the link to the [progress](#).

Coloring is not really considered an animation "pass" since you're not changing the animation itself, just coloring things in. It's basically like coloring in a coloring book, but it's very similar images placed right next to each other. It is an incredibly tedious process, but it makes your animation look cleaner.

*Date: 11/6/23*

## Animation Progress

I completed the lighting of my animation, so now that's left to do is to clean up the colors and lines the create the cleanest looking animation possible. [Progress](#).

Lighting/shading is what turns an animation from looking flat to look 3D. In my case, lighting/shading is what I have the most difficulty with because you have to have a consistent light source and be aware how light reacts on different fabrics/materials. To the best of my ability, I added the lighting/shading; however, I can see myself going back to perfect the lighting/shading next semester as I grow my skills more.

*Date: 11/10/23*

## Animation COMPLETE

The animation is finally complete. I am choosing to leave the background blank so that it may be made into a PNG depending on the needs of the project. Here is the [link](#) to the complete animation.

During these entries, I tried to capture the process of creating an animation and why it tends to take so long. I hope I was able to explain such a complex subject properly, but if any questions arise, I will be happy to answer. After never hearing back from our Brawlhalla contact, Mateo, I had to proceed with any resources I could find online and put me a bit behind schedule. Fortunately, I was able to crack down and get the animation completed by the deadline expressed in our Gantt chart. If I am needed to create another animation for my team or another team, I'll be happy to help.

*Date: 11/17/23*

## Group Meeting (Betsy, Sophia, Nick, Mansi, Ethan, Taelyn)

I showed the group that I had finished the animation and asked what I needed to do next. **My next goal is to begin the events application in Unity to add the animation to.** Prototyping is waiting on their materials to create their complete prototype, but the process has been incredibly slow. Coding team is proceeding pretty well.

### TO-DO

Have the animation play when a button is pressed

Have the animation in a separate function

*Date: 11/30/23*

## Unity Project - Adding Animation

I added the animation to a Unity project and started pushing it to the repository. I've had some technical difficulties getting it to push however, so I'm waiting on a response from Sophia to see if she knows a solution.

*Date: 12/1/23*

## Weekly Meeting - Sophia Lin, Ethan Zhao, Triem Lee, Nicholas Chang, Mansi Gupta, Taelyn May

In the meeting today, I discussed my progress of putting the animation in Unity and troubleshooting my GitHub errors that I will need to continue to work out. Right now, I sent the zip file of the Unity file for people to potentially upload while I'm having issues. Backend has also made progress. Sophia helped me resolve my GitHub issues, and now, I am going to complete my assignment in Unity.

### TO-DO

Connect animation in Unity to a button

*Date: 12/2/23*

## Unity Project - Connecting Animation to Button

Today, I connected the animation I placed in Unity to the play button. I did this by adding C# scripts that could be applied to the VideoPlayer object that the animation is attached to. The C# script implemented the Pause() and Start() methods in the VideoPlayer class and allowed the video to be started and paused when a UI button is pressed. This button can then be mapped elsewhere in the future to allow a user to easily play their animation.

*Date: 12/5/23*

## Reflections Letter

This past semester has been a whirlwind of trying to balance my project in this VIP. As the only animator on my team, I had to figure out the best way to deliver an animation in a timely manner while also maintaining quality. This process led me to worry a lot throughout the semester. By working on one assignment, I felt like I wasn't doing enough. It also felt quite isolating at times because I was the only one assigned to this project. Because of this, I had to make extra effort to provide input to the other teams and keep track of what everyone else was doing. Team meetings were a major contributor to this as it allowed me to catch up with other team members and recognize the best ways I could help after the animation was complete. The timing of our meeting (6pm on Fridays), unfortunately caused me to miss a few meetings because I was away for three different weddings in the span of a single month. Nevertheless, I still made sure to update the group on my progress and read the Discord conversations to maintain my knowledge of the group progress.

One thing I would suggest going forward with this VIP is to always know what is happening and how you can help. If you find yourself on a solo mission like I was this semester, don't worry because as long as you maintain contact, you'll know that your team is there for you. You also know what you can do to help them by simply asking what else needs to be done. Once the animation was finished, I transitioned to helping the Programming Team with Unity, and I will most likely continue this process next semester. Helping in every way you can is easily the best way to learn in this VIP and maximize success, but don't forget to have fun as well! The members of this VIP are incredibly fun group of people to work with, so don't let that go to waste. Enjoy yourself!