

Georgi Tsvetanski  
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Dr. Cahn  
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## End of Semester Reflection

Throughout this semester, I worked with my team and our community partner, B360, to design and build a VR driving safety experience aimed at Baltimore youth. This project pushed me in both technical and collaborative ways, and it helped me better understand what community-engaged design really looks like.

### Community Partner Engagement

We engaged with B360 several times throughout the project—at their tabling event, over Zoom, and again during their visit to our class at the Universities at Shady Grove. These interactions helped me understand their mission more clearly: using dirt bikes and hands-on learning to teach young people safe driving skills and provide alternative career pathways.

Talking with them directly made me rethink the goals of the project. Instead of just making a cool VR demo, I needed to think about what their students actually need—something accessible, safe, and easy to use. That is why my development focused heavily on making the experience run on a simple and affordable mobile VR setup (a Google-Cardboard-style headset with a smartphone). The goal was to make sure B360 could use this without expensive hardware. Much of my work this semester went into making that technically possible.

Our final in-person meeting with B360 was especially helpful. We showed them our working prototype, gathered their reactions, and talked about how they might use this in real workshops. Their feedback was helpful, and their excitement when they first playtested it truly motivated me and my team and reminded us how our hard work makes a difference.

### Collaboration and Feedback

Our team communicated through Discord, Trello, and regular in-person work sessions. We each took different parts of the workload based on our strengths. I focused on VR implementation, user interactions, and performance. Zefran Jehle was focused on creating an interactive QUIZ and a rotating bike showcase. Lewis Plested focused on the art direction, and a color picker integration so that the user can paint their helmet and bike in any color the player may choose.

B360's feedback influenced multiple decisions. For example:

- They wanted the experience to be accessible for a large variety of audience, primarily younger users, so we simplified controls.
- They emphasized safety education, so we made sure the environment and interactions supported the idea of "learning, not racing."
- They stressed accessibility, which reinforced our choice to support mobile VR instead of relying only on a Meta Quest headset.

On the technical side, I had to solve several problems related to [running VR on both Android and iOS](#). This included setting up XR Plug-in Management, adjusting Gradle templates, fixing iOS CocoaPods issues, and configuring Cardboard reticle interactions. While iOS is still a bit hard to finalize, android build is already a success.

Although these challenges were frustrating, they ultimately strengthened the project and helped ensure the final prototype ran smoothly on actual devices.

## Design Alignment

Our final prototype aligns well with the needs and expectations of B360:

- Accessible hardware: Runs on a smartphone + \$18 headset instead of expensive VR equipment.
- Simple interactions: Head-gaze and button input so younger users can understand quickly.
- Educational goals: Environment designed to support calm, focused learning rather than fast-paced gameplay.
- Customization: Clean layout that can be expanded based on B360's future lesson plans.

The prototype is not a finished product, but it demonstrates the direction B360 asked for and gives them something real to react to and build from.

## Personal and Professional Growth

This was one of the most technically intensive Unity projects I've worked on. I learned a lot about VR pipelines, mobile optimization, cross-platform issues, and how to troubleshoot real-world build problems. It pushed me far beyond what we typically do in class, especially the iOS integration steps and debugging native build errors.

More importantly, I learned what it's like to build something for a real community partner. It changes how you think about design. It's not just about what is fun—it's about what is useful, accessible, and meaningful for the group you are serving. While still being fun!

Working with B360 also gave me insight into how technology, education, and community outreach can intersect. It made me more interested in user-centered design and developing tools that support real people, not just hypothetical users.

Overall, this project helped me grow in both technical confidence and communication skills. I feel better prepared for future collaborative work that involves clients, community organizations, and real constraints.