



Fostering The Next Generation Of XR Innovators at Michigan

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Abstract

The **Alternate Reality Initiative (ARI)** is the first student organization at the University of Michigan centered around virtual, augmented, and mixed reality (XR) technology. ARI's weekly meetings are fostering a community of the next generation of XR innovators by hosting development workshops, discussing industry news, and connecting students to opportunities in the greater XR ecosystem.

Over this summer, our team worked with four key stakeholders: ARI members, XR student organizations, XR faculty, and XR companies. This year we have hosted weekly meetings that include development workshops, speaker events, and social events. Our efforts this year led to an increase to over 500 members on our email list, and we've had an average attendance of 24 members per meeting.

We look forward to continuing our work with ARI as we start a new pilot program for project teams and host the XR Midwest conference next semester.



Problems We Faced

Lack of Learning Opportunities

Although more XR classes have been created in the past year, the majority of these courses are tailored to graduate students. For undergraduates, there are many prerequisites or restrictions that prevent students from enrolling. In addition, students would have a hard time discovering these new courses without prior knowledge of their existence. At ARI, we help promote XR courses that students can take, as well as offer our own curriculum by hosting XR development workshops and talks for everyone.

Lack of Hardware Access

In order to develop for XR technology, most students would need to spend at least several hundred dollars for a compatible computer and headset. Although individual departments such as the Duderstadt Center and Shapiro Design Lab have been purchasing XR hardware for faculty and student use, most people are unaware of these resources. Most students who could be interested in XR development choose not to pursue this path because they believe there are too many barriers. At ARI, we help students gain access to XR hardware and additional resources to learn and build.

Summer Research

- 15 minute Google Hangouts interviews
- One person asking questions, one person taking notes
- 49 total interviews

XR Students at UMich

After interviewing 11 students, we learned several past ARI members had difficulty with discovering our organization. In response, we increased our marketing and recruiting efforts for the Festifall, Northfest, and Rackham welcome fairs.

XR Student Organizations

From speaking with 17 student organization leaders at other universities, we received advice on running a XR organization such as how to support project teams and receive sponsorships. We also learned more about ARI's future growth potential.

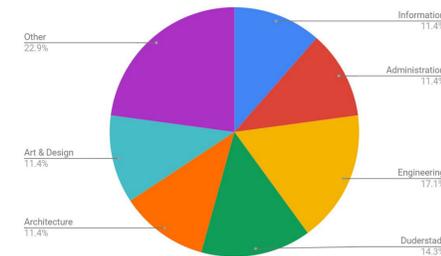
XR Faculty at UMich

Because we interviewed 18 faculty members, we learned that University of Michigan faculty were excited by our student-led organization's mission and success, and were interested in working with us more to provide resources and research opportunities to more students.

XR Industry Professionals

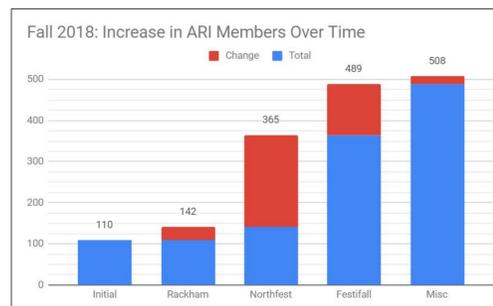
When we attended the Augmented World Expo Conference in Santa Clara, California, we gained numerous insights on the variety of perspectives and opinions on the growth and future of the XR industry. In addition, we individually contacted 3 XR companies to learn about their work.

Distribution of XR Faculty at UMich



Fall Implementation

Sep 14	Kickoff
Sep 21	Intro to Unity
Sep 28	Intro to AR - Marker Based AR
Oct 5	Marker Based AR Part 2
Oct 12	No Meeting/Onboard Leadership
Oct 19	Markerless AR
Oct 26	XR Hardware with Nick Young
Nov 2	XR Faculty Talk
Nov 9	Intro to VR - Oculus Rift VR
Nov 16	Oculus Rift VR Basketball Game
Nov 23	No Meeting
Nov 30	Beat Saber Event
Dec 7	Oculus Rift VR Shooter Game



Lessons Learned

External Relations with Companies

Over the course of the BLI Capstone Phase, we learned the difficulty in building relationships with companies. We had originally planned to host two industry speakers to talk about their work in the XR industry. Although we had been in contact with several companies over the summer, we were unable to schedule a speaking date as our emails were left unanswered. Our geographic location could be one barrier that would discourage companies from travelling to speak, but moving forwards, we think we will need to focus on building long-term relationships and focus on how we can provide value to companies upfront. In addition, we plan to bring on a leadership member dedicated towards external relations.

Hosting Development Workshops

We brought on three new leadership members to teach XR development workshops for this semester. Being expected to learn new material then be knowledgeable enough to teach it to others is a tremendous challenge for any teacher. Due to our inexperience, we asked individual members to bring their own computers, download the necessary applications, and follow along as our team taught everyone at the same pace. Because of this we encountered technical issues related to computer compatibility. In addition, we had to help catch up members who chose not to download the materials prior to the workshop, causing everyone else to wait. Fortunately for the last 3 workshops we hosted, we learned from these mistakes and solved the majority of issues we could anticipate. We now host our workshops in the Visualization Lab at the Duderstadt Center, in which all the computers have the same software and setup downloaded. Also, we now provide detailed slides that students have access to during the workshop. This allows students to go at their own pace as our team members walk around answering questions.

Next Steps

We plan to continue hosting weekly meetings where we will have development workshops, speakers, and social events. In addition to our meetings we are also launching a new project team program where small groups of students will be able to work on a larger XR project. Lastly, we will be hosting the XR Midwest Conference on April 7, 2019. At this event we will showcase XR companies and projects based in the Midwest.

