XR Training

Group 3: XR Training Task Force
Clarissa Anderson, Kathleen Maturan,
Jacquelyn Piansay, Sid Yi

Team Member Responsibilities

- **Recruitment Leads** - Sid (Internal/GMU), Kathleen (External)
- **Interview Leads** - Sid, Kathleen
- **Research Ethics Leads** - Clarissa, Jacquelyn
- **Data Analysis Leads** - Kathleen, Clarissa
- **Data Synthesis Leads** - Jacquelyn, Clarissa

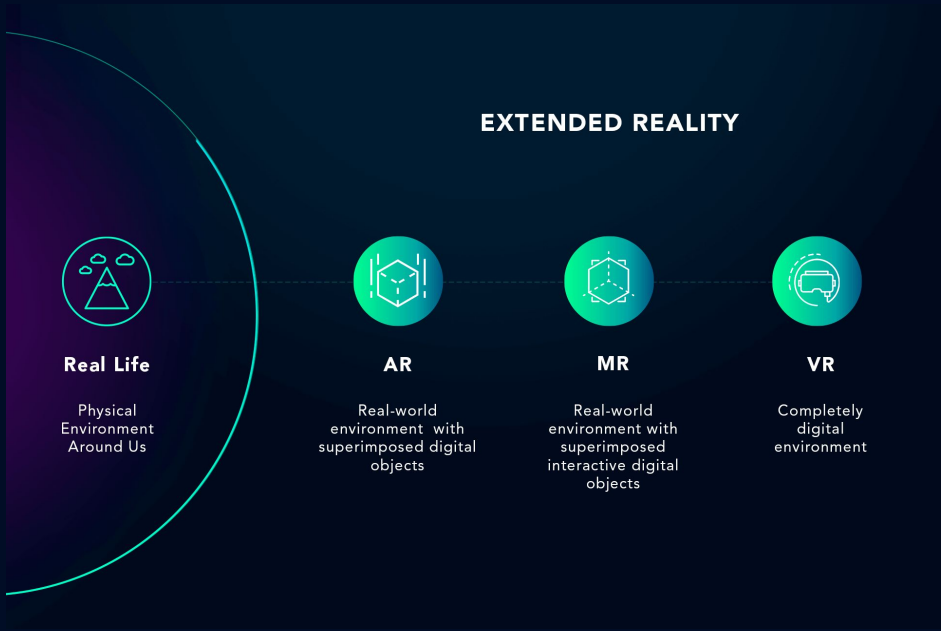
Table of Contents

01
Product Concept

Concept Overview

Background

George Mason University's Learning Support Services (LSS) unit is currently building an XR lab which will allow faculty to gain hands-on experience with XR technologies for education. XR refers to cross reality or extended reality and extends the gamut of virtual, augmented, and mixed reality environments.



Source: Softengi

Concept Overview (cont.)

Challenge

- Lab expected to offer various equipment including Oculus headsets and VR stations
- Many faculty have little to no experience with XR
    - Perceived gap in the knowledge and skills needed to properly handle the equipment and how to apply these innovative technologies within learning environments

Proposal

- Establish a certification process for faculty interested in utilizing the XR lab's resources
    - This project will only focus on the faculty training; student training will be on hold for future development

Concept Statement

To be a leader in the increasingly popular remote and online learning space, George Mason University (GMU) aims to promote greater digital literacy and to support the introduction of cutting-edge learning technologies. As such, the GMU Learning Support Services (LSS) unit is building an XR lab to educate faculty on the instructional capabilities of this technology. Once launched, faculty will require proper usage training to utilize the lab space and its equipment.

We are seeking solutions to create instruction to foster faculty buy-in for the XR learning technologies, along with in-person certification to ensure proper usage of the equipment. Through our research and data elicitation, we hope to understand faculty's needs and the experience of SMEs in order to create an effective, sustainable training/ certification path for faculty wanting to utilize the XR lab.

02

Data Elicitation

Usage Research Questions

Full Interview Question Set

Faculty Interview Questions

Introduction

1. Tell me about your role at work. What does a typical day at work look like for you?
2. On a scale of 1-5, with 1 being not very familiar and 5 being very familiar, how would you rate your familiarity with XR technology (VR, AR, MR)? Why?
    a. *If they mention using XR tech…*
        i. In what ways have you used XR tech either personally or professionally (e.g., games, professional development, etc)?

Digging In Questions

3. What do you know about XR Tech?
a. What do you know of resources that GMU provides for XR tech?
4. What are your general thoughts or feelings about XR tech?
a. *If follow up is needed…*
i. What aspects of XR interest you?
ii. What aspects of XR might hinder you from using this tech?
5. Have you used or experienced XR tech in a learning environment before?
a. If so, tell me one of your most recent experiences using XR tech in a learning environment.
i. What did it help you accomplish?
ii. What challenges did you come across?
iii. What appealed to you?
iv. What happened when you got to the lab?
b. If no, why not?
i. Are you interested in utilizing XR technology for your courses? Why or why not?
6. What would motivate you to use an XR lab or utilize XR tech in your classes?
7. What types of support or resources would help you feel confident using an XR lab?

SME Interview Questions

Introduction / "Getting to Know You"

1. Tell me about your role at work.
2. What does a typical day at work look like for you?
3. On a scale of 1-5, with 1 being not very familiar and 5 being very familiar, how would you rate [university name] faculty's familiarity with technology? Why?

Digging In Questions

4. What are the most important XR topics for faculty to learn?
    - Of the topics you noted, which would be the most important topics for IDs who have little to no previous experience with XR tech?
5. What are some benefits of incorporating XR tech into course design?
6. What are some best practices to determine a faculty member's level of proficiency in XR?
7. How do you train faculty on your campus in using new tech in the XR lab?
    - *If follow up is needed…*
        1. What is the best method to train individuals on XR: a series of workshops, an online course, etc.?
    - How do you measure the success of the training?
8. How has the XR lab impacted teaching and learning experiences at your university?
    - What have been your biggest successes with your XR lab? What do you think made it a success?
    - What have been your biggest challenges with faculty using your XR lab? How have you tried to manage those challenges?
9. How do faculty commonly use the XR lab?
        - What departments use the lab most often?
        - In what capacity do they use the lab?
        - How often do they need user support?
10. How much user support do faculty typically need when using the XR lab?
11. What are some ways to advocate for more integration of XR in the design of learning experiences?

Participants

Internal Interviewees

1 GMU SME - Instructional Technologist

2 GMU Faculty (Learners) - Both familiar with XR tech

External Interviewees

SME from Stevens Institute of Technology - XR Lab Manager and Senior Instructional Designer

Interview Recruitment Plan

Hybrid approach to interviews: In-Person and Zoom

- **GMU SME**
  - Sid maintained communication with GMU SME as they're coworkers
- **GMU Faculty (Learners)**
  - Reached out to GMU SME for faculty and other Blackboard administrators who have expressed interest in XR
- **External SMEs**
  - Reached out to GMU SME for relevant contacts at other universities
  - Conducted desk research for universities with established XR labs and contact SMEs for informational interviews

Research Ethics & Data Sources

Consent & Data Collection

- Consent form provided in advance via email, must be signed
- Verbal description of ethics at the beginning of the interview
- Recording permissions included in consent form
- All data was anonymized

Maintaining & Storing Data Sources

- Each interviewee assigned a unique ID which was logged in a spreadsheet
- Participant contact information stored in a separate spreadsheet
- Recordings, transcriptions, and other raw data stored in Zoom, Kaltura, and Google Drive (will be deleted at the conclusion of the Spring 2023 semester)

03
Data Analysis

RAW DATA

Interview 1

Participant ID

Interviewer: Sid
Note-taker: Clarissa, Jackie
Date: 2/1/23

Notes

Interview 2

Participant ID

Interviewer: Sid
Note-taker: Clarissa, Kathleen
Date: 2/2/23

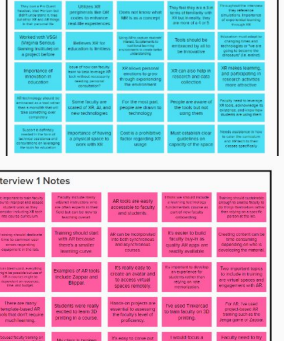
Notes

Interview 3

Participant ID

Interviewer: Sid
Note-taker: Sid, Clarissa
Date: 2/9/23

Notes

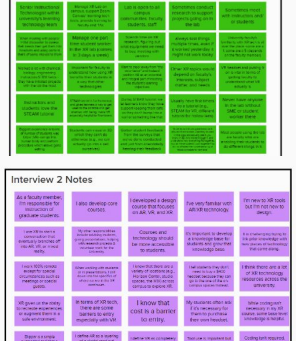


Interview 4

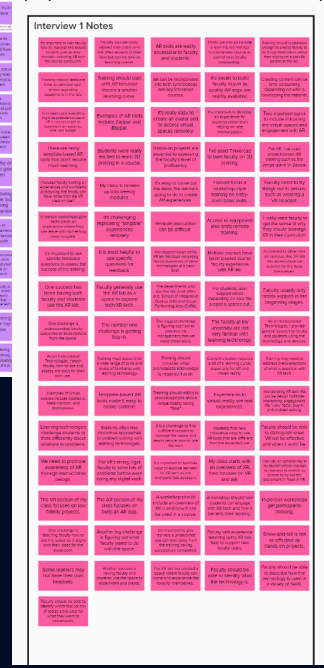
Participant ID

Interviewer: Kathleen
Note-taker: Jackie
Date + time: 2/29/23

Notes



Interview 1 Notes



Interview 2 Notes

Interview 3 Notes

Interview 4 Notes

Initial Insights

Strengths

- Students are often innovative in their utilization of XR tech and enjoy using it
- Can start with simple XR tools that are widely available

Challenges

- Wide range of faculty's familiarity with XR tech
- Many constraints to consider (e.g., cost, time, staffing)

Opportunities

- Demonstrate value add to faculty
- Create fun and simple learning experiences
- Leverage remote elements to supplement in-person training

WORK ACTIVITY NOTES

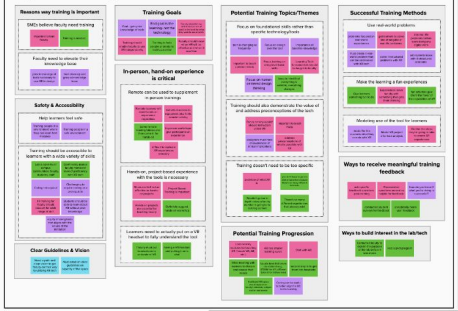
Copy new data notes over and use this space to break down each into work activity notes

Source Key

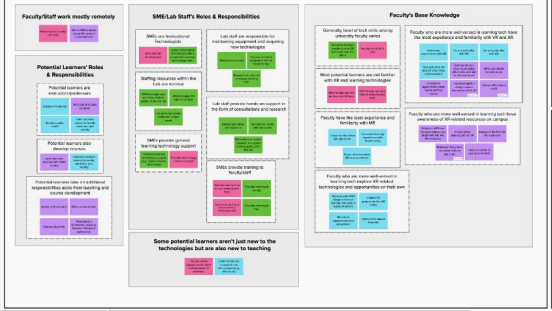
WORK ACTIVITY AFFINITY DIAGRAM

Source Key

Aspects of training



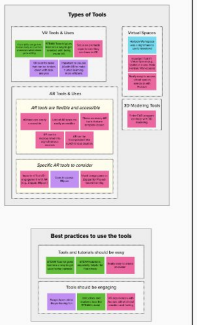
Personas



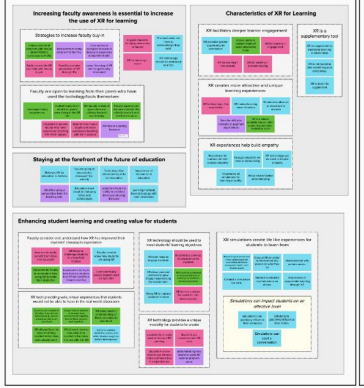
SME/Supporting Lab Staff Desires

Faculty Desires & Interests

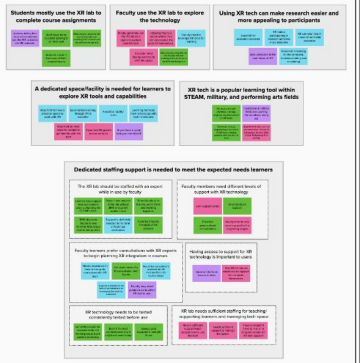
Tools for Training



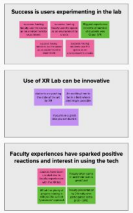
Leveraging XR for Learning



XR Lab Use & Potential Impacts



Successes



Challenges

04

Data Modeling

USER WORK ROLES

User Work Role 1 XR Lab SME

Duties & functions

- Senior Instructional Designer or Senior Instructional Technologist
- Stays up-to-date on emerging instructional technologies
- Advises stakeholders and faculty on instructional technology
- Budgets for the XR lab
- Manages XR lab staff
- Assists faculty with learning technologies

Work activities & job responsibilities

- Provides support for learning technologies (e.g. LMS, Zoom, etc.)
- Trains faculty on how to use various learning technologies including XR
- Creates support documentation and help guides
- Hosts consultations, workshops, and courses
- Researches XR to better support the XR lab and specific lab projects
- Submits requests for the purchase of new XR technology

Knowledge & skills

- Expertise with a range of XR technology
- Knowledge of new XR technology available
- Knowledge of faculty capacity for using XR
- Ability to transfer knowledge of XR to others in a meaningful way
- Ability to troubleshoot technology
- Understanding of finances and budgeting for XR technology

User Work Role 2 Faculty member

Duties & functions

- Teaches at George Mason University
- Presents at conferences related to their field
- Conducts research related to their field
- Student Advisor

Work activities & job responsibilities

- Uses XR in their courses
- Develops course work to support student learning objectives
- Provides instruction as an expert in their field
- Assesses students' understanding of course material
- Provides meaningful feedback to students on coursework
- Collaborates with other faculty members to design courses

Knowledge & skills

- Need to familiarize themselves with instructional technologies to better serve their students
- Knowledge of pedagogy
- Expertise in course subject area
- Knowledge of university's program of study
- Knowledge of university values
- Interest in using innovative learning technologies in their course design

User Work Role 3 Students

Duties & functions

- Participates in classes full-time/part-time
- Participates in university research

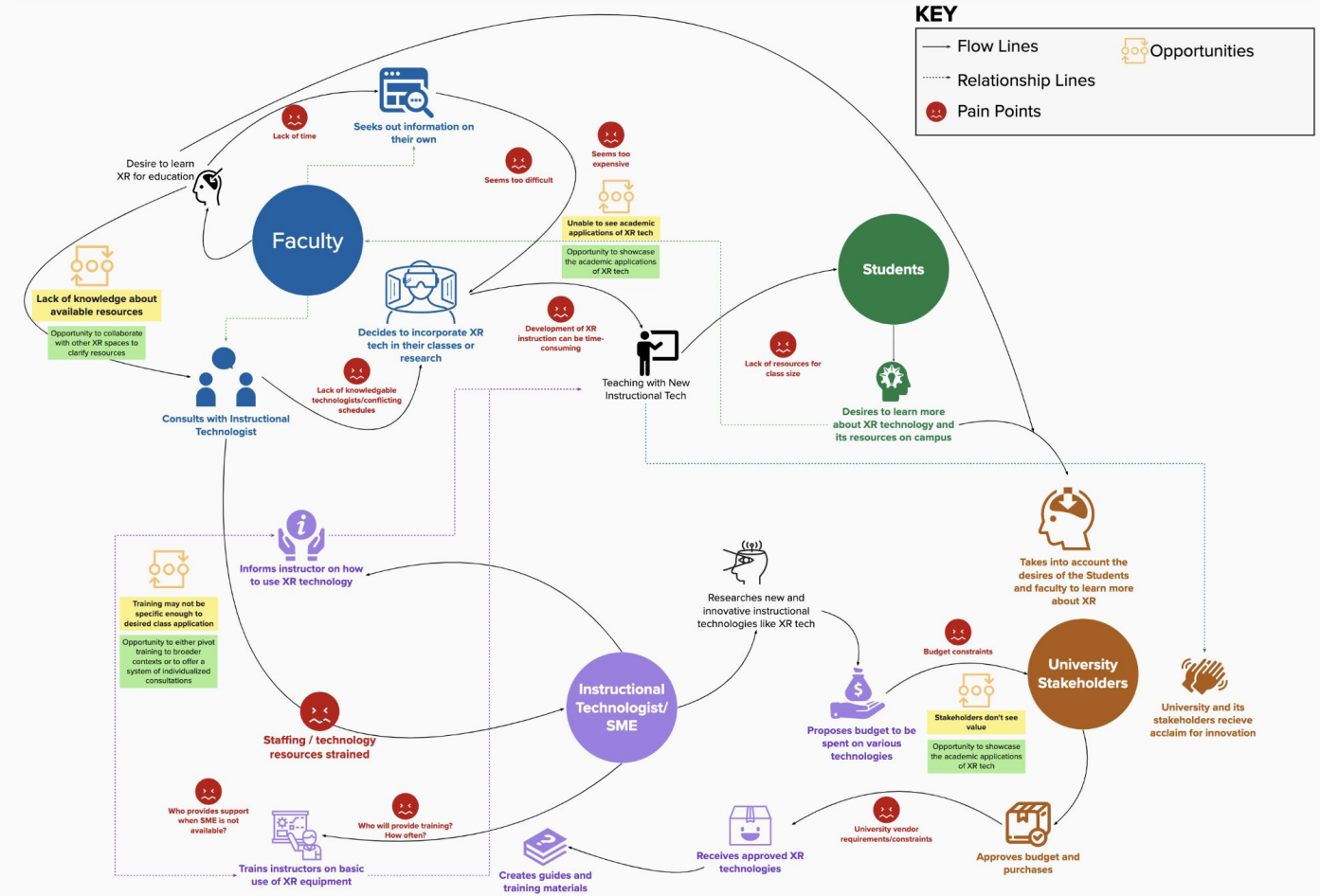
Work activities & job responsibilities

- Completes course assignments
- Participates in collaborative work groups
- Utilizes campus resources (i.e., advisors, labs)
- Participates in course work experiences
- Completes assessments to show learning growth

Knowledge & skills

- Self-Advocacy
- Ability to work collaboratively
- Innovative and creative problem-solving
- Working knowledge of basic technology
- Applying knowledge of technology to course learning objectives
- Using technology to demonstrate understanding of course materials

FLOW MODEL


KEY
Flow Lines
Relationship Lines
Pain Points
Opportunities
Desire to learn XR for education
Faculty
Lack of time
Seeks out information on their own
Seems too difficult
Seems too expensive
Unable to see academic applications of XR tech
Opportunity to showcase the academic applications of XR tech
Lack of knowledge about available resources
Opportunity to collaborate with other XR spaces to clarify resources
Decides to incorporate XR tech in their classes or research
Development of XR instruction can be time-consuming
Lack of knowledgable technologists/conflicting schedules
Consults with Instructional Technologist
Teaching with New Instructional Tech
Students
Lack of resources for class size
Desires to learn more about XR technology and its resources on campus
Takes into account the desires of the Students and faculty to learn more about XR
Informs instructor on how to use XR technology
Training may not be specific enough to desired class application
Opportunity to either pivot training to broader contexts or to offer a system of individualized consultations
Researches new and innovative instructional technologies like XR tech
Budget constraints
University Stakeholders
Proposes budget to be spent on various technologies
Stakeholders don't see value
Opportunity to showcase the academic applications of XR tech
University and its stakeholders recieve acclaim for innovation
Instructional Technologist/ SME
Staffing / technology resources strained
Who provides support when SME is not available?
Who will provide training? How often?
Trains instructors on basic use of XR equipment
Creates guides and training materials
Receives approved XR technologies
University vendor requirements/constraints
Approves budget and purchases

05
User Stories

INITIAL BRAINSTORMING

Potential User Stories/Requirements

Faculty (experienced and inexperienced)		Instructional Designers	Instructional Technologists (SME)	University Admins (Internal Stakeholders)	External Stakeholders	Students (Current)	Prospective Students
As a faculty member, I want to receive sufficient XR tech support so I can effectively teach.	As a faculty member, I want to know where I can send my students on campus so they can utilize XR resources.	As an instructional designer, I want to know if XR technologies are beneficial or detrimental to learning so that I can provide the best advice possible for our faculty members	As an instructional technologist, I want the resources and the space to teach faculty how to use cutting-edge instructional technology for more effective and engaging learning.	As an internal stakeholder, I would like to know how investments into XR technologies are providing benefit to the university so that I can feel confident in investments made towards XR for learning	As an external stakeholder, the successes of University use of XR further prove the university's commitment to innovation and learning	As a student, I want my instructor to be able to utilize new and emerging technologies so I can stay engaged in courses.	As a prospective student, I want to go to a university that supports innovative technology and learning so that I can feel more engaged with learning, and excited about learning goals
As a professor, I'd like to be able to consult with someone who can help my tailor the use of XR technology to my course.	As a faculty member, I want training to fit my already busy schedule so that I can be sure I have enough time to invest in learning a new technology	As an instructional designer, I want to know how these XR technologies align with learning theories so that I can properly suggest XR tech to interested faculty	As an instructional technologist, I want faculty to be able to utilize the lab with little guidance so that my time isn't solely taken up by aiding in basic XR usage	As a university admin, I want the university to be a leader in teaching and learning so that we can attract more students, funding, and recognition	As an external stakeholder, I want the university to receive acclaim to be able to attract more students.	As a student, I want to learn how to properly use XR technologies, so that I can successfully complete my course assignments.	As a prospective student, I want to be able to see other students successfully utilize XR technology to achieve their learning goals so that I might try to apply them to my personal learning goals
As a professor, I want the resources to be able to research specific use cases of XR technology on my own.	As a faculty member, I want to see my colleagues' successes with XR technology, which will inspire me to use it more in the classroom.		As an instructional technologist, I want to be able to support the volume of instructors wanting to use the space and learn so that I do not become overwhelmed				
As faculty member, I want to know how I can leverage XR resources for my students so that they can be engaged in learning	As a faculty member, I want to learn how to leverage XR tech in my courses, so that my students can learn more effectively.						
As a faculty member inexperienced with XR tech, I want to know how I can leverage the technology to enhance my students' learning experiences.							

Faculty

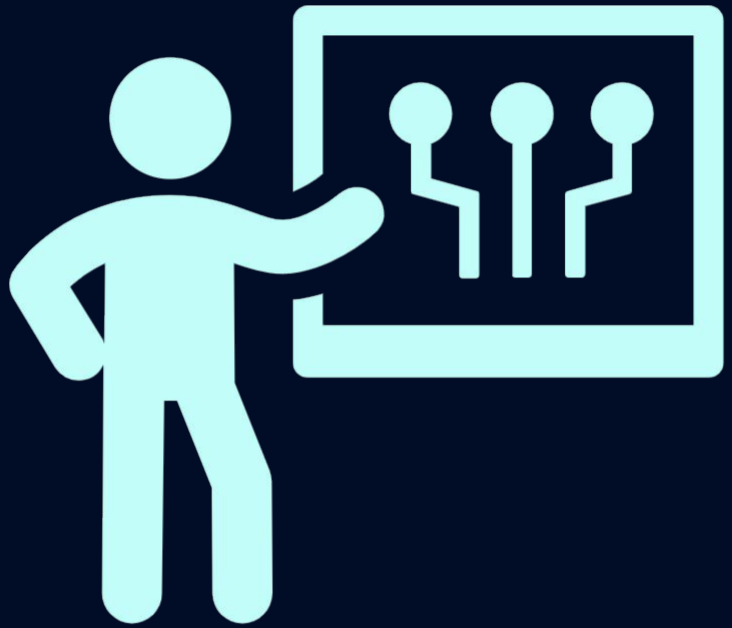
User Story 1

As a professor, I want training for XR technology to fit into my already busy schedule so that I don’t have to sacrifice the quality of my teaching or research to learn a new technology.

User Story 2

As a professor, I want to be able to access support in the form of one-on-one consultations to tailor the use of XR towards appropriate course concepts and learning goals.

Instructional Technologists



User Story 3

As an instructional technologist, I want to be able to appropriately support the volume of instructors wanting to use the space and learn in a way that does not overwhelm my schedule and other commitments.

User Story 4

As an instructional technologist, I want to ensure training is easily accessible and requires little in-person guidance so I can enable faculty members to utilize XR on their own.

Students

User Story 5

As a current student, I want my instructor to utilize new and emerging technologies so I can engage more deeply in courses, and utilize it for creative problem-solving.

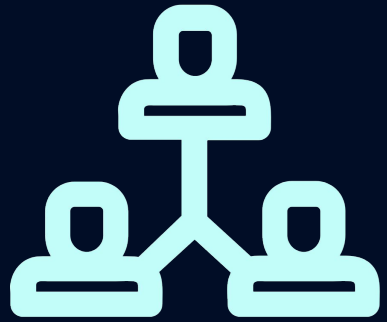
User Story 6

As a prospective student, I want to go to a university that supports XR technology so that I am able to leverage innovative skills in my personal goals and the workforce after graduation.

Stakeholders

User Story 7

As an external stakeholder, I want GMU to utilize and showcase XR technology to prove the university's commitment to innovation and learning.



User Story 8

As an internal stakeholder, I want the university to be a leader in teaching and learning so that we can attract more students, funding, and recognition.

Overall Insights

Key Design Requirements

- Faculty and Instructional Technologists have competing priorities with regard to how much individualized attention should be provided
- However, they agree that initial training shouldn’t take much time away from their daily tasks

Additional Considerations

- Student and Stakeholder interests showcase potential motivating factors for faculty to learn and demonstrate their new skills in XR, and will inform some of our future training and faculty buy-in tactics

Thanks!

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon and infographics & images by Freepik