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NDSU Technology Action Plan Request

I. Action Plan Introduction and Authorizations

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Office of the Vice President for Information Technology

NDSU ORGANIZATION OR UNIT
Memorial Union Gallery

TITLE OF PROJECT
Virtual Reality: Access Education

Project Duration (3 years maximum)	**From: April 1, 2018**		**To: May 30,2020**
Type of Project (Check one)	**New X**	**Previously Submitted**	**Renewal**
Total Technology Fee Request: $ 5,894			

Project Director **(Must be NDSU faculty or staff)** **James Anthony Faris**	**Campus Address:** 258 Memorial Union Mail- NDSU Dept 3440 **Phone: (701) 231- 8239** **Fax: (701) 231-7866** **E-mail: james.faris@ndsu.edu**	
Name (Type or Print)	**Signature**	**Date**
Project Director James Anthony Faris		1/12/18
Unit Head Paul Wraalstad, Director, Operations Memorial Union		1/12/18
IT Division Consultant Melissa Stotz, Learning and Applied Innovation Manager	**Signature**	**Date** 1/12/18

Executive Summary (maximum of 175 words)

The objective of this proposal is to assist the Memorial Union Art Gallery in offering, and increasing access to experiential digital content by integrating the use Virtual Reality (VR) platforms into exhibitions. VR will enrich ongoing exhibitions, enabling more active education, and producing broader outreach opportunities. Contemporary galleries use VR to introduce spaces, situations, and lessons into the visitor experience. Because of its ability to engage and generate deep interest in complex issues, the advanced visual technology and simulation tools requested by the gallery will advance both student relationships to new media and access to more active forms of participation in contemporary gallery viewership.

This proposal would provide two Oculus Headsets, two Desktop Hard drives with video cards, and two LCD Televisions for 1) both professional and student artists to present their digital artworks and interactive programming, 2) multidisciplinary student engagement with specialized content that can simulate complex activities, or allow completion of research and 3) offer on-campus access to an immersive technology that advances critical interdisciplinary explorations between visual arts and other fields.

We will only accept for consideration Technology Action Plan Request forms which are fully completed and signed according to the guidelines listed in the Instructions, pages 1 and 2.

Technology Action Plan Request forms will be opened and reviewed after the submission deadline.

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II. Project Overview

1. How does this project meet student needs?

The Memorial Union Gallery's mission is to enable critical interdisciplinary exploration of the arts on an ongoing and evolving basis for students. The requested learning technologies are expected to provide more engaging and active participatory opportunities for all students to develop relationships with the Gallery space, its artwork and their fellow viewers while increasing user-comfort with cutting-edge technologies. As Virtual Reality (VR) becomes more common in teaching, learning, and experiences of space/artwork/situations, Museums and Galleries have been investing in platforms for viewers to become much more actively involved. This shift toward spaces of activity parallels the current movement in contemporary art, wherein technology is upsetting the traditional idea of the artist as object-maker and the viewer as passive observer. The 21st century experience of art now often includes innovative technology such as virtual spaces/activities that require a more educated and active audience.

The requested technologies will encourage students to increase their contact with contextual and historical information, interact with research and user-involved artwork, develop awareness of events and opportunities, and come in contact with time-based/4-D artworks and technologies. For exhibiting art students, such as those in the annual Digital Art Exhibition, access to VR platforms will mean the possibility to highlight their visual digital research in a more appropriate medium. For students visiting the Gallery, access to this technology will result in the opportunity to interact with programs as well as participate in curated research supplementing monthly exhibits. In a recent Touchstone Research Study, 92% of respondents said they were aware of the term Virtual Reality, but most (74%) of the respondents had yet to experience Virtual Reality (VR). This disparity is an opportunity for the introduction of VR-based learning to supplement traditional modes of education, exhibition, and outreach. It is encouraging to imagine that a participant's first contact with VR may be through the approach of experiential learning; which will deepen the university's ability offer differentiated learning methods. The gallery expects this technology to better provide mobility-impaired audiences with greater accessibility, and these inclusive technologies will increase perception and relationship with diverse subject matter in the gallery space for students at North Dakota State University.

2. What audience does this project directly serve? What audience is indirectly served? How many students are affected?

The Memorial Union Gallery is located on the second floor of the Memorial Union. The Memorial Union has a traffic count of two million visits during each school year. The Memorial Union Gallery directly serves the staff, instructors and the 14,516 NDSU Undergraduate and Graduate Students who visit this centrally located space for recreation, meetings and campus activities. The Gallery is free and available to all students, staff and community members.

During the 2015-2016 school year, there was an annual Gallery attendance of over 4,000 students, staff and community members. NDSU Faculty increasingly use the Gallery for class visits and special programming. The Performing Arts, Architecture, Visual Arts, Women and Gender Studies, History, Philosophy and Religion, Teaching and Learning, NDSU Library, Music and English Departments have all collaborated with the Gallery in the last year for student-centered programming.

The Memorial Union Gallery's audience also includes community partners like the Fargo/Moorhead Visual Artists, Rape and Abuse Crisis Center, Sexual Assault Prevention, NDSU American Indian Public Health Program, Fargo-Moorhead Native American Center, Sing Our Rivers Red committee, Tapestry of Diverse Talents, and the City of Fargo's Arts Partnership.

3. For projects that target a subset of NDSU's students, please describe the possibility for broader application in the future.

The VR technologies requested for this project will benefit all students and visitors who visit the Memorial Union Gallery. As stated above, the Memorial Union has an annual traffic count of over 2 million visitors during the school year, and as such, there is great potential to utilize the requested technologies in the Gallery and, for specialized programming, throughout the building, to engage larger numbers of students and visitors.

This project is particularly considerate of the needs of our student populations with impairments who may find traditional exhibition design less accessible and inclusive. Virtual reality can be a way to help people with learning or physical disabilities to explore a world and situations that might be difficult or impossible in real life.

4. Describe both the immediate and long term impact of this project.

The immediate impact of this project includes introducing NDSU students to the ability to access new experiential learning and participatory opportunities based on active rather than passive learning experiences. VR is suited to all types of learning styles and VR prepares students for a future dominated by this technology. The two VR headsets and televisions (to allow non-immersed students to share in the VR experience) will immediately be used to grow opportunities to activity engage in monthly exhibitions, education and programming. These headsets will allow the context of an exhibition to expand into research and exploration of content to supplement understanding and broaden educational opportunities for teaching and learning. VR programs will allow students to visit historical locations, experience conflict through reenactments, examine the application of various media or visit other museums and see notable works of art. VR can also allow for live-streaming artist talks, interviews and programs that promote learning through doing.

The long term impact of this project will include developing programming that supports and examines how these technologies can grow access to visual and performing arts/artists. Access to these technologies is expected to grow experimental, collaborative and interactive relationships that builds student interest and involvement within the Memorial Union Gallery. Working in collaboration with our partners and fellow instructors, we see numerous opportunities for teachers to integrate VR, exhibition and the NDSU Collection into their classes.

5. Who will pay for ongoing expenses following the technology fee funded portion of this project (e.g., who will replace hardware or software after it has reached its end of life)?

The Memorial Union Gallery will fund maintenance and future equipment replacement through reallocation of existing Gallery resources.

6. Describe how this project will follow NDSU's best practices in information technology. (Please make sure the NDSU IT Division staff you consulted signs in Part I of this form.)

The Memorial Union Gallery has consulted with the IT Division Consultant, Melissa Stotz, to discuss this proposal, equipment and best practices for this project. This proposal and it's content has been approved by the IT Division Consultant. The Gallery Coordinator has been working with a IT Board on a parallel project the examines VR's future role on the NDSU campus. Through meetings with the IT Board, surveys of instructors and research of other similar sized institutions, the Gallery already has a meaningful plan for best practices.

7. What service on campus is most similar to the one proposed here? How does this project differ?

The most similar service at North Dakota State University are two popular VR integrated courses for the Center for Visual and Cognitive Neuroscience and the Department of Architecture and Landscape Architecture. These two VR resources are restricted to students from these departments and do not reflect the multidisciplinary student need for meaningful access.

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III. Project Description (5 pages maximum)

Include information on the background of this project: how did it come to fruition?

Over the last six years, the Memorial Union Gallery has made concerted efforts to budget for acquisitions of technology that will expand access to the digital arts for our student visitors, student artists and professional visiting artists. These purchases include high-definition televisions, IPADS, projectors and DVD and Audio Equipment for documentation of performance art and animation. These investments in technology curtail a gap that limited, in some respects, the Gallery's ability to develop exceptional displays of digital content.

By improving access to technological instruments, the Memorial Union Gallery expects to create new participatory opportunities for students to interact with artists, research and artworks. Establishing new avenues for our multidisciplinary visitors to access digital technologies, in a contemporary art space, hasbeen a goal of Gallery staff. These efforts have included ensuring accessibility to all audiences, including those with impairments.

In October 2015, the Memorial Union Gallery hired a new Gallery Coordinator and Curator of Collections who has specialized experience with Digital Installations and Interactive Arts. The new Coordinator has met with the Memorial Union Director of Operations, Memorial Union Advisory Board and Technology Support Services to discuss the technology needs of the Gallery to best serve NDSU's student population. This proposal grows the technological instruments that will make the most significant impact for the Gallery's exhibitions, education and outreach schedule for students. The Gallery is committed to offering innovative and inclusive approaches to issues that grow student's capacity to examine complex problems and develop creative solutions.

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IV. Milestones

List the date for each project milestone. These milestones should represent the ***significant*** accomplishments that will be associated with the action plan. For each milestone, please indicate its expected outcome and the means for assessing that outcome. (The table may be extended as needed.)

	Date	Milestone	Expected Outcomes	Means of Assessment
1.	March 2018	Purchase equipment, inventory and train staff on use of technology. Begin outreach to instructors, students and staff to the accessibly of this new technology.	Staff will better understand usage and possibilities- encouraging discussion on potential uses. The campus community will become better aware of how they can use the Gallery and it's new VR equipment.	Demonstration of use, connectivity, handling and best practices. Responses back and clear surveys of how the Gallery can best use this new technology.
2.	April 2018	Research of programs to correspond with current and upcoming exhibition. Installation of VR headsets and TV's in the Memorial Union Gallery. Promotion of new VR. Plan tours of use for students, classes and instructors.	Increased audience for exhibition throughout the month and interaction with media. Increased awareness and hands-on access to the capabilities of VR for teaching, learning and research.	Logging numbers of use. Logging visitors to the Gallery in comparison to traffic counts from the last three years. Survey after completion.
3.	May 2018	Utilizing equipment as common practice to supplement research and interactivity	Increased use and activity in Gallery and with content	Logging number of visitors
4.	September 2018	Professional Digital Exhibition Installation. Professional use by artists and workshop for students.	Student access and engagement with Contemporary Digital Artists and technology	Survey of Visitors and Visitor Count. Workshop Survey.
5.	September 2018-May 2020	Ongoing Use of Technology for Exhibitions and Engagement. Integrated use in monthly programs. Continued calls for use to Faculty, staff and students.	Increased Activity, interest and participation with Gallery and content.	Visitor Counts and Surveys

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V. Supporting Documentation

1. Merritt, Elizabeth, "Museums and the matrix of place-based augmented devices", Museum Magazine Published September/October 2017

NDSU Technology Fee Action Plan Request
VI. Budget

(double-click on the form to begin entering data)

1.	NDSU ORGANIZATION OR UNIT Memorial Union Gallery
2.	PROJECT DIRECTOR(S) (Must be NDSU faculty or staff) James Anthony Faris

3.	SALARIES AND WAGES			
	Personnel description	Number employed	Number of months	Funds Requested
	A. Staff			
	B. Graduate students			
	C. Undergraduate students			
4.	TOTAL SALARIES AND WAGES			$0.00
5.	FRINGE BENEFITS			
6.	TOTAL SALARY, WAGES AND BENEFITS			$0.00

7.	EQUIPMENT	
	A.Gemini Q270 Performance Desktop (2 at $2,199 each)	4,398.00
	B.Oculus - Rift + Touch Virtual Reality Headset Bundle for Compatible Windows PCs (2 at $379 each)	758.00
	C.Vizio D-Series 40" 1080xp, 120HZ Full Array LCD Smart HDTV (2 at $319 each)	638.00
	D. Ten VR Programs (10 at $20 each)	200.00
	E.	
	F.	
	G.	
	H.	
8.	TOTAL EQUIPMENT	$5,994.00

9.	MATERIALS AND SUPPLIES	
	A.	
	B.	
	C.	
	D.	
	E.	
	F.	
	G.	
	H.	
10.	TOTAL MATERIALS AND SUPPLIES	$0.00

11.	TOTAL TECHNOLOGY FEE REQUEST	$5,994.00
12.	MATCH (Describe in Match Section)	
13.	TOTAL PROJECT EXPENDITURE	$5,994.00

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VII. Budget Justification

Describe how you arrived at the budget totals in Section VI, Budget.

You are expected to follow all applicable university policies and procedures regarding salary expenditures.

You are expected to follow the state-approved purchasing guidelines when purchasing materials and supplies.

- Equipment: List name, estimated cost and quantity of each item and explain why it is important to the project. Include installation and maintenance costs in your estimates.

The total requested project cost for this request is $5,994. This expenditure includes two (2) Oculus Headsets ($379 each for a total of $758), two (2) Desktop Hard drives with video card ($2,199 each for a total of $4,398), two (2) 40" LCD Televisions ($319 each for a total of $638) and ten (10) VR programs ($20 each for a total of $200). This Virtual Reality arrangement will permit the VR Headsets to run off the Hard drive and will allow non-immersed viewers to observe the experience occurring on VR through the depiction on the corresponding Television. These quotes come from DakTech, Bitespeed and the NDSU Bookstore.

The technologies requested for this plan will be used for three purposes: to offer artists a new exhibition media, to encourage more active participation by students with content and to make the equipment available to a multidisciplinary audience for education and outreach. The programs selected for education will supplement the content of ongoing exhibitions. These programs will offer access to simulated spaces and information that will cultivate better understanding of content. Exhibiting artists will develop and "exhibit" their own programs for viewers to consider. There are currently no opportunities for students, staff or community members in Fargo to experience contemporary Virtual Reality artwork in a gallery or museum space.

- Materials and Supplies: List name, estimated cost and quantity for each non-equipment items and explain why it is important to the project.

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VIII. Budget Match

1. Attempted Budget Matches: N/A

2. Actual Budget Matches: N/A

3. Additional Budget Match information: N/A