

The University of Nebraska at Omaha



IT Innovation Cup

Geo-spatial Augmented Reality Technology

2016-2017

UNO IT Innovation Cup Guidelines

University of Nebraska at Omaha

2016-2017: “Geo-spatial Augmented Reality Technology”

Introduction

The UNO IT Innovation Cup is an annual competition between Nebraska and Iowa High Schools. Schools compete each year to determine who can create the most innovative, creative and best ITbased solution given the current year’s problem requirements. For 2016-2016, the challenge area is “*Geo-spatial Augmented Reality Technology*” The winning team is awarded the IT Innovation Cup (a traveling trophy) for their school and cash prize of \$2,500 (\$1,000 for second place, \$500 for third place). Each high school team can have at least one but no more than three faculty coaches, and each team coach will receive an honorarium of \$200 and free tuition to one College of Information & Technology (CIST) IT Professional Development Workshop. All participating students will receive free tuition to one CIST summer workshop and a CIST t-shirt.

2016-2017 Problem Requirements

The increasing sophistication of geo-location technology and trends toward massive online social communities has led to the rise in popularity of geo-spatial augmented reality mobile games such as Ingress and Pokemon Go. These platforms are highly successful at building online communities and mobilizing large groups of individuals to participate in challenges that they would not otherwise be involved in. The added benefit of these geo-based games is that they encourage individuals to remain active and learn about historic or significant landmarks in their vicinity. However, the potential of these games remains largely untapped, creating an opportunity for entrepreneurs to leverage these powerful platforms to solve broader challenges in the world. Therefore, the goal of this competition is to:

“Use augmented reality and/or wearable technology *with* geo-spatial elements to solve a meaningful problem or provide value to society.”

Teams should create a compelling solution that meets the identified need. The prototype must result in a useful, IT-based solution and must be communicated in a variety of media including written papers, oral presentations, and online project portfolios. The solution needs to include new or novel software development, hardware configuration, and/or system setup.

Available Resources

All teams will be assigned a mentor from current UNO IT Innovation Collaborative students. These mentors will offer guidance, encouragement, and assistance for each team. The mentors may not provide direct development work, but can assist with idea generation, debugging and problem solving, and clarifications of guidelines. They can also provide feedback on videos, papers and presentations prior to submission.

We will also provide a sample list of known web services and APIs. This will not be comprehensive, but should give teams a place to start. Teams are encouraged to look for other web services or ways to utilize these in novel ways.

Materials (hardware, etc.) for projects will be reimbursed up to \$200 per team and itemized receipts are required for these reimbursements. Reimbursements should be requested from Amy Kelley (amykelley@unomaha.edu).

A free one-day workshop will be offered on November 5, 2016 at the Peter Kiewit Institute to help students start their development. Several technologies will be demonstrated. Faculty and staff from UNO will provide instruction on how to get started, help teams configure individual computers for development, and provide information about marketing a product. Additionally, upon request we will provide scheduled access to PKI computer labs, and will coordinate with the UNO Speech Center for any help required for presentation development.

Finally, all teams may have at least one but no more than three faculty members from their high school to serve as coaches, but all software, artwork, multimedia presentations, music, etc. must be performed by the high school students. Faculty coaches can provide basic debugging help and advising, but not code or development. Any team that is determined to have active development work from a faculty coach will be disqualified.

Judging Criteria

The competition is three-phased and points will be accumulated at three milestones. There are 1000 total points (broken out in detail below) and the team with the most points at the end of the competition will be the winner. The description of point allocation and judging criteria for each of the phases are shown in Appendix A.

Proposal Phase (225 Points)

Kickstarter page proposal 125 Points

Kickstarter video 100 Points

Concept Generation Phase (115 Points)

Presentation of top 3 ideas 115 Points

Development Phase (160 Points)

Lo-fi prototype 75 Points

Technical progress presentation 85 Points

Demonstration Phase (500 Points)

Final Presentation 150 Points

Kickstarter page update	50 Points
Demonstration	300 Points

Key Dates

- October 7, 2016 – Email of Intention to Compete Due
- October 17, 2016 – Kickoff Event and workshop at PKI
- November 4, 2016 – Concept generation (top 3 ideas) presentation
- November 4, 2016 – Mavs vs. Colorado College Hockey Game and Tailgate
- November 16, 2016 – Points awarded for concept generation
- December 12, 2016 – Kickstarter page and video due
- December 19, 2016 – Kickstarter Page Reviews Complete and Points Awarded
- January 26, 2017 – Low-Fidelity Prototype Presentations
- February 5, 2017 – Points awarded for Low-Fidelity Prototype presentation
- March 9, 2017 – Technical Progress Presentations
- March 18, 2017 – Points awarded for Technical Progress Presentations
- April 18, 2017 – Final Presentations and awards

Eligibility

- For 2016-2017, competing high schools must be in the Greater Omaha area
- Each high school is allotted one team
- Each team must consist of no more than ten students, not including faculty coaches
- Diverse teams are encouraged; a great team will usually involve artists, programmers, project managers, marketers, etc.

How to Enter

To apply, student teams must submit a brief email to unoinnovationcup@gmail.com by October 7, 2016. The email should state:

- The high school the team represents
- Contact information of the faculty coaches
 - Full name
 - Best contact phone number
 - Best email address
- For each student team member:
 - Full name
 - Email address
 - Expected graduation date
- The number of the student team members that plan to attend the workshop on 10 October 2016

Team Members

In the initial email to enter the competition, the members of the team must be identified. However, new team members can be added until the presentation on January 26, 2016. Teams cannot have more than 10 student members and no more than 3 faculty coaches. After January 26, 2016, teams cannot add new members, but team members can be removed. In order to remove, add, or replace a team member, a team must notify the IT Innovation Cup committee of the desire to remove, add, or replace a member and then receive an email confirmation from the IT Innovation Cup committee that the team structure has been updated.

Prizes

The first place team receives \$2,500, first runner-up receives \$1,000 and second runner-up receives \$500. There will also be a new prize this year called the “People’s choice” winner. This team will be determined by a public vote at the final event. This vote will not impact the score of the overall winner, but the team that wins this vote will receive a \$500 prize.

APPENDIX A – Detailed Judging Criteria

Problem Refinement and Concept Generation Presentation (115 Points)

DUE: 5:00 PM, 4 November 2016

Submitted via email to: to unoinnovationcup@gmail.com

Presented at PKI

This milestone evaluates the teams' ability to present a refined project description and problem that their innovation will address. Teams will also present their idea generation process and selected top 3 ideas for further development. Since the direction of the project will be largely determined at this stage, teams will give and receive feedback to one another. Each team's presentation must be at least 5 minutes and no more than 7 minutes. The presentation should:

1. Clearly identify the need that the solution satisfies
2. Present the teams' top 3 ideas that were generated to satisfy this need.
3. Answer these questions:
 - a. Who is it for?
 - b. How will it benefit them?
 - c. How do you know it will benefit them (e.g., research performed)?
 - d. Are they willing to pay for it?
 - e. Who else is trying to solve this problem?
5. Explain results and effects of the project

Criteria	Description	Possible Points
Project Description	Good presentation introduction	15
Need	The need is relevant, real, and well-thought out Segmentation is realistic (i.e., who is the product for?)	30
Generated Concepts	Effective idea generation techniques used Clear descriptions of top 3 ideas Present neat sketches or photos to describe the ideas Ideas are novel and insightful	45

Time Control	Over 5 minutes (show sufficient content) Under 7 minutes (shows control over flow and constraints)	10
Presentation Quality	Slides are neat, orderly Good eye contact with audience around the room Clear voice, loud enough to hear in the back row Display of enthusiasm and appropriate gesturing	15

Kickstarter Page Guidelines (125 points)

DUE: 11:59 PM, 12 December 2016

Submitted via email to: to unoinnovationcup@gmail.com

<mailto:unoinnovationcup@gmail.com>

While there is no size limit for this proposal, entrants are encouraged to be thoughtful of capturing and maintaining the attention of online audiences.

1. First Impressions (20 Points)

- (a) The title and headline of the innovation is clear and inviting.
- (b) The layout and design of the page is interesting and easy to understand.

2. Describe the problem and how you will address it (50 Points)

- a. What is the issue or problem addressed by your idea?
- b. Who is the target audience and what value will your idea add to their lives?
- c. How is problem addressed in your solution?
- d. What is the market need and climate for your proposed solution?
- e. Has anyone written about, presented, used or applied your idea before? Please provide details. What other products or services are similar to your idea?
- f. What about your proposed solution is different from existing products?

3. Concept Development (35 Points)

- a. Describe your ideas in detail using sketches, photos, and prototypes.
- b. What resources will your team utilize to develop your idea?
- c. What is your plan, schedule, budget, and major milestones?

4. Tell your story (20 Points)

- a. Describe where this idea came from, and share the history of the idea.
- b. Tell people who you are passionate about this problem and your proposed solution
- c. Share the background of your team and why you are qualified to solve this problem.

Kickstarter Video Guidelines (100 points)

DUE: 11:59 PM, 12 December 2016

Submitted to YouTube: UNO IT Innovation Channel

Each student team creates a 1 to 3 minute video about their idea to be posted on their Kickstarter page. The content of the video is very flexible, but should be innovative and clearly communicate the purpose, relevance, and creativity of the solution. A few ideas that could be used are: create an extended infomercial about the idea, have video testimonials from potential users, etc. This is very open-ended as long as it has a compelling narrative that will encourage your online audience to back your project. Points will be based on creativity, quality of the presentation, clarity of the message about the innovation, and how interesting the video is.

The videos must not be offensive or vulgar in any way. There will be zero tolerance for demeaning remarks or pejorative labeling in this competition. Videos that would not be allowed on network television will receive zero points.

Criteria	Description	Possible Points
Purpose	The idea is described in a clear and coherent manner The target user is described The idea is unique	25
Relevance	The need for the innovation is evident and important The innovation is relevant for the intended user The innovation addresses the need for the target user The rewards for backers of the project are clear	30
Creativity	The video is unique, creative, and fun	15
Saliency / Memorability	The video is engaging The video is memorable	15
Production Quality	The video is well-produced and well-edited	15

Low-Fidelity Prototype Demonstration Guidelines (75 Points)

DUE: 5:00 PM, 26 January 2017

Submitted via email to: to unoinnovationcup@gmail.com

Presented at a networking event at PKI

This milestone evaluates the teams' ability to develop and present their technological innovation using low-fidelity techniques to communicate the intent and functionality of the project. Each team's presentation must be at least 7 minutes and no more than 10 minutes. The presentation should:

1. Briefly and crisply describe the innovation
2. Explain the basics of the innovation functionality using paper, cardboard, electronic, or 'Wizard of Oz' prototyping techniques.
3. Discuss development efforts including progress to date

Criteria	Description	Possible Points
Innovation Description	Good presentation introduction Clear, succinct description of the innovation	10
Prototype	Sufficient detail and functionality in the prototype Prototype communicates the intent and functionality Prototype is well crafted	35
Time Control	Over 7 minutes (show sufficient content) Under 10 minutes (shows control over presentation flow and time constraints)	10
Development Progress	Evidence of technical progress is presented Development efforts are solid and a clear path to completion is presented	10

Presentation Quality	Slides are neat, orderly Good eye contact with audience around the room Clear voice, loud enough to hear in the back row Display of enthusiasm and appropriate gesturing	10
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Technical Progress Presentation Guidelines (85 Points)

DUE: 5:00 PM, 9 March 2017

Submitted via email to: to unoinnovationcup@gmail.com

Presented at a networking event at PKI

This milestone evaluates the teams' ability to present their technological innovation in a professional manner. Each team's presentation must be at least 7 minutes and no more than 10 minutes. The presentation should:

4. Briefly and crisply describe the innovation
5. Clearly identify the need that virtual reality solution satisfies
6. Explain the basics of the innovation functionality
7. Demonstrate how the solution meets the needs
8. Discuss development efforts including progress to date
9. Provide screenshots, story boards, or rudimentary examples that demonstrate technical progress is being made

Criteria	Description	Possible Points
Innovation Description	Good presentation introduction Clear, succinct description of the innovation	10
Need	The need is relevant, real, and well-thought out Segmentation is realistic (i.e., who is the product for?)	10
Solution Functionality	Functionality is clear Ties from the innovation to the needs are strong, and evident	25

Time Control	Over 7 minutes (show sufficient content) Under 10 minutes (shows control over presentation flow and time constraints)	10
Development Progress	Evidence of technical progress is presented Development efforts are solid and a clear path to completion is presented	20
Presentation Quality	Slides are neat, orderly Good eye contact with audience around the room Clear voice, loud enough to hear in the back row Display of enthusiasm and appropriate gesturing	10

Final Presentation Guidelines (150 Points)

DUE: 5:00 PM, 18 April 2017

Submitted via email to: to unoinnovationcup@gmail.com

Presented at a final event at Scott Conference Center

This milestone evaluates the teams' ability to present their innovation and idea in a professional manner. Each team's presentation must be at least 7 minutes and no more than 12 minutes. The presentation should:

1. Briefly and crisply describe the geo-spatial / virtual reality solution
2. Clearly identify the need that the aid solves (e.g., social, educational needs)
3. Explain the functionality of the innovation
4. Demonstrate how the aid meets the need
5. Discuss development efforts including progress to date
6. Show completed geo-spatial solution and what it does

Criteria	Description	Possible Points
Innovation Description	Good presentation introduction Clear, succinct description of the idea	15

Need	The need is relevant, real, and well-thought out Segmentation is realistic (i.e., who is the product for?)	15
Functionality	Functionality is clear Ties from the aid to the needs are strong, and evident	35
Time Control	Over 7 minutes (show sufficient content) Under 15 minutes (shows control over presentation flow and time constraints)	15
Completion	Innovation is complete, functional, and provides value to target market	50
Presentation Quality	Slides are neat, orderly Good eye contact with audience around the room Clear voice, loud enough to hear in the back row Display of enthusiasm and appropriate gesturing	20

Technical Demonstration (300 Points)

DUE: 5:00 PM, 18 April 2017

Demonstrated at a final event at Scott Conference Center

Each team will demonstrate their solution to a panel of judges and show how it works and how it solves a need. Each of the judges will subjectively evaluate the solution and award a point total from 0 to 300 points. The average of the judges' scores will be calculated for each team and the resulting number will be the resulting score. Sample criteria include visual appeal of the innovation, error-free demonstration, quality of the implementation, functionality, etc.

Update to Kickstarter (50 Points)

DUE: 5:00 PM, 18 April 2017

Submitted via email to: to unoinnovationcup@gmail.com

Each team will update their Kickstarter proposal and give an update of their experience, lessons learned, and outcomes of their Kickstarter efforts. The expectation is a 1-3 page summary that will be emailed to judges.

People Choice Award Public Votes (NO Points)

DUE: 5:00 PM, 18 April 2017

Votes at final event at Scott Conference Center

All of the attendees at the final presentation and demonstration conference will be given the opportunity vote on which innovation they like the best. UNO students, faculty, and community members will also be allowed to vote. Votes will be cast using a mobile application.

Credits will be awarded in the following fashion. Each first place vote receives 10 credits, each second place vote receives 7 credits, and each third place vote receives 5 credits.

The team with the most credits will be the “People’s Choice Winner” and receive the \$500 prize.