Guidelines for MSR Design Expo 2017

Redmond, Washington July 16-20, 2017

Last updated 02.01.17 avs

Microsoft is pleased to announce Design Expo 2017 and welcomes your participation. Design Expo showcases exceptional design processes and ideas from schools around the world. As part of a semester long course, students are asked to form interdisciplinary teams of 2-4 students, consider people's real needs, and respond with a user experience prototype and narrative to support their thinking.

A representative team from each school will be selected to attend and be featured in a presentation at the 2017 Microsoft Research Faculty Summit, which takes place **July 17-18, 2017** in Redmond, WA. Teams should plan to be in Redmond **July 16-20**.

The Design Expo creates a forum for spotlighting design, and encouraging "out of the box" thinking, by exploring students' visions for the future of computing. Additionally, students hone their presentation skills and engage with students from other design teams from around the world to see how they approached this year's theme. Students often form lasting relationships with other students and this informal network has persisted from Design Expos over the years.

This year, your organizers for the Expo are Colleen Estrada (cestrada@microsoft.com), Allyson Schrier (v-alschr@microsoft.com) and Michael Kasprow (mkasprow@icloud.com). And of course, Lili Cheng (lilich@microsoft.com).

Design Challenge and Overview:

- Theme
- 2017 Design Challenge
- Participating schools
- Design Process
- Project Stages
- Investigation & Conceptualization
- Prototype
- Project Selection
- Presentation & Demo
- Key Design Considerations
- Design Expo School Liaisons
- Microsoft Research Goals for Design Expo 2017

Design Expo 2017 Agreement to participate

- Participation Grant
- Travel Costs
- Visit by Liaison
- Project Assessment
- Assessment Criteria
- Submission Requirements
- Publicity & Ownership
- Important Dates

Design Expo 2017 Challenge and Overview

THEME | Intentional Design for Positive Cultural Impact in Mixed Reality

Just as we are beginning to understand what it would take to "colonize" Mars – we are also starting to explore, develop and cultivate new "territories" in Mixed and Virtual Realities. What does it mean for our global cultures to exist in this "part physical/part digital" dimension? What is our responsibility in ensuring it is inclusive and works equally well for people with learning and physical disabilities? What unknown business models will we uncover that create new economies and continued innovation? How could this be equally available to all economic classes?

In Neil Postman's book "Technopoly" he discusses how technologies create the ways in which people perceive reality – and that the culture shift can happen so quickly that sometimes we don't even realize it. He provides this example: In the 12th and 13th centuries, Benedictine Monks used church bells to communicate the specific times during the day to pray. By the middle of the 14th century, this desire for precision led to the invention of the mechanical clock, then to the concept of efficiency and productivity, and ultimately – Capitalism!

Where might Mixed Reality, which opens a new dimension across space AND time, lead us? Might we approach this with intention, mandating ourselves with the goal to create experiences that positively impact people's perceptions of reality – "physical" or not*?*

We believe that Mixed Reality is a range of experiences where physical and virtual realities merge and **create new environments where people and objects co-exist and interact across space and time.** We are embarking on building infinite and alive worlds in Mixed Reality; join us to drive intentional awareness of the cultural impact that our efforts will create.

Some inspirational prompts:

- How do we create more inclusive experiences through multi-sensory capabilities? How do these solutions turn into superpowers?
- How can we increase empathy for others through Mixed or Virtual Reality?
- What does the future of storytelling look like in Mixed Reality?
- The world is your screen. What will you do with it?
- How do we empower people with cognitive and/or physical disabilities in Mixed and Virtual Realities?
- It's your job to create jobs for those being displaced by technology. How can Mixed Reality provide a new economy for everyone?
- Is there a "new economy" in Mixed Reality? If so, how do we tap into it? What does retail and merchandising look like?
- What is the future of memories and reminiscing with multi-sensory capture in Mixed Reality?

CHALLENGE

Design a product, service or solution that demonstrates the value and differentiation of Mixed Reality. Your creation should demonstrate the best qualities of a Mixed Reality experience, taking into consideration the environment, objects and people that will be participating in your solution. It should meet a clear need and be extensible to wider applications. It may be near-term practical or blue sky, but the idea must be innovative, technically feasible, and have a realistic chance of adoption if instantiated. Of course, to deliver an optimal experience, much is implied–from data, identity permissions and privacy to avatars and bots (first and third party); your design should minimally show awareness or explore solutions to them.

Communicate your design by first explaining the situation (via background research, interviews with your users, and describing the local culture and work environment), and then explaining your design solutions (through scenarios, innovative designs and interface simulations/prototypes). We encourage you to think beyond traditional software and toward solutions that integrate with everyday life.

PARTICIPATING SCHOOLS

Art Center College of Design, Graduate Media Design Practices; **Los Angeles, USA**
Professors: Jenny Rodenhouse, Ben Hooker, Philip van Allen
Microsoft Liaisons: Kim Pimmel, Jeremy Cristiano, Colleen Estrada

Carnegie Mellon University, School of Design; Pittsburgh, USA
Professors: Peter Scupelli, Bruce Hanington
Microsoft Liaisons: Kevin Korpi, Irina Smolyanskaya

MIT; Cambridge, MA, USA
Professor: Pattie Maes
Microsoft Liaisons: Moni Wolf, Becky Haruyama

Royal College of Art; London, UK
Professors: Kevin Walker, Robert Phillips
Microsoft Liasons: Helene Steiner, Mike Golembewski

New York University ITP; New York, USA
Professors: Mike Dory
Microsoft Liaison: Oscar Murillo

University of Southern California; Los Angeles, USA
Professor: Scott S. Fischer
Microsoft Liaison: Greg Melander

University of Washington, Interaction Design Program; Seattle, USA
Professor: Axel Roesler
Microsoft Liaisons: Nathan Auer, Gino Scarpino, March Rogers

DESIGN PROCESS

The goal is not to have all projects address the same problem and this is not a competition about who has the "best" solution to a focused problem. It is more important for the students to interpret the theme according to what they feel is important while still achieving the goals that the professor has for the class. The resulting spectrum of design solutions will provide a number of unique and innovative views on the potential future real time data transmission and seamless connectivity technologies.

PROJECT STAGES

Each class will divide into teams of 2-5 students, who will all consider the theme and context. In an ideal process, student teams will first understand the problem, decide on an audience to address, develop scenarios and design solutions that address the needs, iterate on the solutions and finally develop a

prototype and presentation that tells the story of their process and highlights their solution.

Team work
Assemble as broadly based interdisciplinary team as possible, aim to include different skill sets—graphic designers, film-makers, psychologists, anthropologists, programmers, musicians, marketers etc.

Recognize that by virtue of the fact that the team is from different backgrounds they will disagree and argue, so the design solution will have to evolve.

Investigation & Conceptualization
In order to understand your specific design problem, it is essential you research previous work in the topic area to prevent "re-inventing the wheel." Interview real users to understand their point of view and their specific situation, issues and problems to prevent "designing for yourself." Remember you are not the user. Get feedback on "paper prototypes" as soon as possible to "learn from your mistakes early."

Design is an iterative process and the professors will work with the students through iterations of the ideation phases to continually refine the scenarios and concepts to get progressively more tangible form (e.g., storyboards, video sketches, etc.) or other artifacts as chosen by the professor.

Your Microsoft liaison will work with you throughout the process to ensure sufficient progress is being made. The purpose of this is to allow time for iteration and feedback, and to avoid all of the work happening in the last week before everything is to be completed.

PROTOTYPE

Once scenarios are refined, the teams will focus on building a design prototype, interaction and user experience. Ideally if the design solution involves software, students should mock up what a user would see and do, thinking through the interface, the context of the user and how their needs have been addressed. Students should feel free to use whatever tools they feel comfortable with to help create the illusion of the experience. Your prototype can leverage real code, hardware, video or a combination of these in order to express the idea and answer the challenge.

Think beyond traditional software, toward solutions such as lightweight user interfaces and designing user interaction for your particular scenario and solution. The interfaces and interactions should be designed more to communicate what is unique about the experience. That may be done more effectively with designing an interactive prototype (even if it is a scripted click through) that demonstrates the thinking behind the experience and the interaction design.

The goal of the prototype is to create a vehicle that best communicates the tangible experience of the design solution. The Microsoft liaison will work with the professor to determine the practical milestone date for the prototype completion and the nature of what makes and appropriate prototype.

Additional design process suggestions

- Establish a design process with a schedule and use it to help meet your project goals and mediate your design decisions. Often too much time is spent reaching consensus and brainstorming up front, with little time left for the final design aspects of the final project.
- Decide up front who and what will be documented throughout—do not document after the prototype is 'finished.' Work in progress should be posted often to your teams' Web site.
- Describe and meet your "ultimate" real users. Then interview these users to find out their problems, needs and desires.
- Study existing products, markets and research findings, so you do not re-invent some existing work.
- Prototype your ideas often and in rough ways and forms. Use these to gain feedback from your users, before you start building or designing anything more complete. Do not forget to keep a log of your prototype for later inclusion in your design story.
- Consider how your design concepts relate to other situations. We think it is useful to design prototype concepts that can be adapted to suit other people for different purposes and with different life styles. This can help to lengthen the product cycle and allow users to customize and personalize their own devices.
- Simulate the look and feel of the user's tasks or sequences of operations with any available prototyping tools but please try to make sure you can show your work/presentations on Windows and/or a browser (Edge, etc.) This will make remote feedback and presentation setup much easier. If you need additional Microsoft Software (Visual Studio, C#, SQL, etc.) to build your prototypes please let your liaison know and we will try to get you this software.
- Repeat your cycle of design with users several times and show how you changed your product and interaction design directions.
- Make physical mock-ups of the devices, wherever appropriate.
- Document any design evolution stages to include later in your presentations.
- Send or link to a final copy of your presentation so we can share with others

PROJECT SELECTION

Prior to final selection (May 2017) the professor, other relevant faculty at the school and a Microsoft liaison will evaluate all the student projects and select one team to represent the school at the Faculty Summit in Redmond, WA.

PRESENTATION & DEMO

The final presentations will be made by the student(s) and are typically approximately 8 minutes long covering the problem definition, research findings, scenario, design process (including user feedback), and the design solution. Presentations in the past have been done in PowerPoint, Keynote or Flash and have often included other media or demonstrations of concept prototypes to help illustrate the point.

Additional Presentation tips

- Practice your talk including all your props. This can usefully be done alone, with team members, and with novice audiences. Video tape yourself for practice, it is a great learning experience.
- Time your talk to get a better feeling for how long it takes to describe things clearly to a novice audience.
- Never underestimate how little the audience knows about what is so interesting about your project.
- The audience will engage more if you are enthusiastic and engaging. You've put a lot of effort into your work, so speak with enthusiasm and energy.
- Make slides visible from the back of a large room (try them out!)
- Do not talk over any audio in your presentation.

- Give a copy of your final presentation to your liaison.

Presentation slide topics to include

- WHO—team members' backgrounds.
- WHAT—what was designed and for whom? What is the design point of view you took?
- WHY—why is this an important/useful need or problem to address?
- HOW—describe the design processed used.
- DESIGN—show highlights of the prototyping process. Show iterations of the design evolution (what worked what did not work). Show specific details that demonstrate how well you understood and solved the problem.
- CHALLENGES—what problems were encountered? What did you learn and what would you do differently?
- WHAT'S NEXT—what are your next steps? Where would you take your design if you had a year to work on it?

KEY DESIGN CONSIDERATIONS

Too often the majority of time is spent in the early stages of research and conceptualization leaving little time at the end for the prototype and presentation. If you think of the ~8 minutes that you have at the Faculty Summit Design Expo Presentation session as the final deliverable, consider each task and how it will contribute to that final result in lieu of the time spent. This is analogous to film students only focusing on elements that will end up in the final edit of the film and spending less time on things that don't.

Another aspect of the presentation is to show not just the final result but to communicate the arc of the problem definition, research, design considerations, prototyping and thinking behind how the final solution and presentation was created. Great design is an iterative process and that process should be reflected in the presentation as well.

Designs should include user interface interactions as part of the user experience demonstration. Make sure not to gloss over the actual user interface design. In addition to screen and interaction design, we are interested in illustrating how the interactive language may be extended to seamlessly integrate physical design pieces. Solutions should be thought through from multiple perspectives to understand the user's experience, instructor (if applicable), family and friends, learning community, etc.

- Designs should address particular needs and desires of users, ideally coming from diverse economic, professional and cultural backgrounds. It is important to not design for yourself and to remember that 'others' do not have your background. The final project should not include only users who share your own perspective, terminology or experience. Choose users and scenarios that extend beyond what is comfortable to you and consider scenarios outside your economic, geographic, cultural and social circles. Learn from observing and studying actual users. Remember that student teams are coming from different countries. We encourage you to represent local culture, making sure to explain the context of your learning system in your design presentation.

- Take a point of view and be clear what your user scenario is addressing & what it is not. It is important to describe a real user scenario and then try out such premises with the user you are designing for. A walk through scenario often shows why the prototype is a good idea and helps those unfamiliar more quickly gain an appreciation of the need or use. Take a stance with your design, commit yourself to a challenge, but also be clear about what you are and what you are not trying to solve. Consider how to leverage existing infrastructures in new ways to provide innovative solutions at less cost to the individual.

- Validate your designs with actual user feedback. Involving real users iteratively within the design cycle helps shape product design. This should be done at the very beginning of concept development and evolve into more precise user feedback when the prototype is more 'finished.' Involve a variety of potential users early and often throughout the design cycle.

DESIGN EXPO SCHOOL LIAISONS

Each of the universities will have a Microsoft liaison and possibly a backup, who will be the primary contact person(s) for each school. We are trying to get this guide out as early as we can to provide early guidance to schools, but we fully expect this guide to be revised as the schedule, events and other details get locked down.

This year we are again fortunate to have Mike Kasprow, Creative Director and long-time Design Expo Critic helping us with design critiques and process coordination. Mike has many years as a creative and design director and will be working closely with your Microsoft crew. Please contact your school liaison from Microsoft, and either Lili, Colleen or Michael with any questions or comments about these guidelines, etc.

This document is meant to serve as a set of general guidelines for Design Expo 2017, as opposed to being strict rules for compliance or a legal agreement. We expect these guidelines will be adapted as needed over the course of the semester, by each school to accomplish their own class goals while maintaining some connection to the theme.

MICROSOFT RESEARCH GOLAS FOR DESIGN EXPO

- Provide a forum for students from around the world to learn from exploring a particular design related theme and build ongoing relationships between schools.
- Enable a group of students to learn from students in other design programs around the world about how they approach design solutions.
- Provide a voice for design schools within the Faculty Summit to present their students' work and raise the awareness and importance of design
- Raise student, faculty and design schools' awareness of the value of design in the software development process.

- Raise awareness within Microsoft about the capabilities of design schools and their students.
- Create memorable and fun experiences for students that foster informative connections among design students from the participating schools.

SUMMARY

Students work in small teams (2-4) during the spring 2017 semester. Given specific guidelines (described later in this document), students will research a design problem related to this years' theme, define a scenario, ideate design solutions, select one idea to prototype, and study the impact on real users. The best team project, as identified by the professors with some feedback from Microsoft liaisons, will be invited to attend the Faculty Summit at Microsoft, which is the venue for Design Expo.

The Design Expo is part of a larger event called the Faculty Summit. For more info on the Microsoft Re- search Faculty Summit, click here: https://www.microsoft.com/en-us/research/event/design-expo-2017/

Design Expo 2017 Participation Process

PARTICIPATION GRANT

Microsoft will donate $10,000 per university. This is an unconditional grant and there are no restrictions placed on the use of these funds.

DESIGN EXPO TRAVEL COSTS

Airfare
For schools not located in the Seattle Area, Microsoft PROVIDES A TRAVEL STIPEND to schools, which is intended to supplement the cost of airfare for one faculty member and two students to attend the Faculty Summit. Some schools have chosen to utilize some or all of the grant money to cover the cost of bringing all the students in the selected team and that is their choice. Travel arrangements are made by the schools from the funds allotted. Each school is responsible for making their own transportation arrangements for faculty and students who are attending and no additional funds beyond the stipend will be provided for travel.

- Domestic (US) Travel Stipend- $1,500.00 (USD)
- Non-US Travel Stipend-$3,000.00 (USD)

Hotel
Microsoft will cover the cost of single occupancy hotel rooms for faculty and two hotel rooms for students (2-4 students depending on single or double occupancy). Students of the same gender will be expected share a room with two queen beds.

Microsoft will provide these rooms for 4 nights, July 16-19, 2017. International schools may need to arrive a day earlier given availability of flights and should let us know to see if we can arrange for you to check into the hotel a day earlier. In that situation, students and faculty will be responsible for the cost of the additional nights at the hotel.

Each school is responsible for providing us with the details of the faculty and student arrival and departure dates/time.

If your school brings more than four students and/or decides to stay longer than the four nights covered by Microsoft, if you contact us early enough, we may be able to help get additional rooms and/or nights at the discounted rate for the Expo, though you will be responsible for the additional cost.

We book a block of rooms and need to release the rooms that will not be used by June 30, 2017. If you do not plan ahead and let us know, the rooms may not be available. July is one of the busiest months in Seattle so open hotel rooms will be difficult to find or very expensive to find on short notice.

- Faculty Member — One Single King Room/4 nights
- Students — Two Double Queen Rooms/4 nights

This year we have reserved rooms at the Bellevue Downtown Marriot Courtyard, located around 4 miles from the Microsoft campus.

Other transportation costs
Microsoft will provide cover the cost of transportation to/from the Seattle Tacoma airport to the Marriott with an additional sum to defray the cost of getting back and forth between the hotel and the Microsoft campus. Other transportation costs at your city of origin or travel while in Seattle area are the responsibility of the individuals.

Food
Microsoft will provide meals for the majority of the duration of the Design Expo. A continental breakfast buffet and box lunches will be provided at the Faculty Summit, and several of the dinners will be group events paid for by Microsoft.

LIAISON VISITS

Liaison(s) from Microsoft will visit each university at a mutually agreed upon date early in the process to provide the best opportunity to collaborate with the faculty and students to kick off the project.

Monthly follow up video conferences by the Microsoft liaison(s) to track progress will help keep the project on track. A second visit by the liaison(s) will occur near the end of the term when they sit down with the faculty to decide which project will be selected to represent the school at the Design Expo.

PROJECT ASSESSMENT

Each university should try to have at least 2 to 5 team projects running within the class. Each of the project teams will be independently evaluated before one is chosen to present at Design Expo. Each project should include students with different backgrounds on their design team, computer science, product design, marketing, psychology etc. Faculty members should not be part of the team. Each project assessment will be made internally by the university using peer and instructor feedback. The university and Microsoft Liaison(s) will select one project that they think best illustrates the project brief concepts/goals and best represents the university at Microsoft. The Liaisons can also be used to help make the final project selection. Selection should be based on the following criteria and the ability to complete the final documentation.

ASSESSMENT CRITERIA

Interdisciplinary collaboration
the prototype designs reflect the contributions of members of different disciplines

Originality
the prototype designs show unique and new interface designs along with new applications

Practicality
the prototypes are based on what is most realistically likely to happen with technology in the context proposed

Design point of view
the design takes a clear stance and addresses a real user need

Design validation & user feedback
the prototype and presentation show how user involvement evolved the design concepts. (Working with real users and incorporating their feedback)

Design process
the prototype shows how user involvement was used directly to evolve the design concepts. This means showing how you used real users and incorporated their feedback

Degree of finish
the prototypes should be understandable and clearly described, but need not be ‘implemented’ or built to a final detail level. It is important that you actually design the user inter-face; the UI will be evaluated for degree of finish.

Presentation skills
the project team is presents in an engaging and crisp manner about the project goals; ideas and process of design (see later tips).

SUBMISSION REQUIREMENTS

We are assuming that all class projects and their associated work in progress are posted to a university area related to the school web site. Please send the URL details to Lili, Colleen & Michael and your school liaison by end of January. This Web site will be used for review purposes by both the MS Liaisons and the project coordinators. It is important to send email to the project coordinators when significant additional or new information has been uploaded for review. When the class is ready for their mid-term review, please send an email to both project coordinators/liaisons. Every school will receive feedback and recommendations on all their projects both at the mid-point of the class and around the final or end of the course. We expect to give this feedback to each school within a week of receiving an update request from the schools.

After the professor, liaison and project coordinators have selected one project by June 2017 to represent the school at the Microsoft Design Expo, we need to review the selected project's final presentation before your visit.

Submission checklist for the selected project

- ☐ Project summary and contact information: Each project should have a completed project information form that includes the students' names, majors, and the professor names, your URL and your final presentation and project on a flash drive (or uploaded to the design expo site), along with any system requirements that are needed to run the design prototype.

- ☐ One paragraph abstract for announcements of project work: A written summary that describes the project briefly and that we can use for announcements about the work

- ☐ Interactive presentation (for Design Expo presentation): The project presentation should take about 10 minutes and include a high-level overview slide. The electronic form of this presentation should be clear to a non-team person and should be self-explanatory. All software fonts, applications etc. need to be included with the submission. This will be used as the basis of what will be used for the dry runs in Redmond, Washington at Microsoft.

- ☐ User research (as part of your Design Expo presentation): Short highlights of any user study interviews could be included (if some unique insightful moment occurs) within the presentation to demonstrate how users influenced the project design direction. If you interview people for the user studies make sure to get their written permission in order to use their comments.

- ☐ One-page project summary handout to distribute during the presentation: A one pager should include the school name, names of the team members and faculty, and a summary of project goals and solutions. We welcome you to send the project coordinators a draft of this with your slides for some additional feedback. This hand out should explain in a concise and compelling way what, how and why you designed what you designed. A few small pictures are helpful, so readers with no more than this one pager can understand the general product ideas and the overall project goals.

When you come to Microsoft, in addition to the items above, please also bring with you editable (source) materials with you to Microsoft. Most people tend to revise their presentations after getting feedback, and it is easier to edit if you bring original images, etc.

PUBLICITY

Microsoft will try and provide some avenues for the students to talk to the press about their work, and meet Microsoft researchers, designers, and design recruiters.

The Design Expo will take place during the Microsoft Faculty Summit., when approximately 300 faculty from universities in the US, India, and Latin America will be on campus to meet one another and find out more about Microsoft Research. We will invite these attendees, along with the Microsoft design community to attend the Design Expo presentations.

OWNERSHIP & COMMERCIALIZATION

The work and curriculum of the course should follow ownership and commercialization policy of each individual university. Microsoft does not own any of this work, nor requires any first right of refusal.

We would like to post the recorded presentations on the Microsoft Research website for Design Expo and we will ask all presenters to sign a speaker release form.

We will also ask you to release content in the talk (including any third party content such as images of other projects) to the public domain, so others can use content for free without further restrictions on use or redistribution.

SCHEDULE AND IMPORTANT DATES (subject to change)

Jan 25, 2017 Schedule visits for liaison at mutually agreeable date.

Feb 6, 2017 Send URL of class project sites to Project coordinators and your MS Liaison(s)

Feb-Mar 2017 Liaisons coordinate with schools on initial project progress.

April 2017 Mid-term progress reviews given via email feedback

May 14, 2017 Final project submissions of all class projects. Final project feedback given via email on all projects.

Note: Any visa requests for non-US residents must be made ASAP, as required. Do not wait to do this!

May 15, 2017 Presentation with ONE-page visual of EACH PROJECT along with a second page describing in 1 or 2 paragraphs a summary each project.

May 18, 2017 Notify Project coordinators and Microsoft Liaisons of the one project selected from each university to be presented at Design Expo. Send professor and student attendee names with their email contact details to Project Coordinators.

May 22, 2017 Draft of chosen project student presentations (10-min) and description of all projects with team member names are sent to Project coordinators and MS Liaison(s)

MSR Design Expo Schedule in Redmond WA (subject to change)

July 16: Arrival & Design Expo Kick-off Activity/Dinner in Bellevue 6:00pm-9:30pm

July 17: Dry-run Presentations

- 9am-5pm Dry-run presentations with feedback from Lili & Michael, 45 minutes for each school, followed by 30-minute tech walkthrough.
- Students and faculty arrive in time to do a dry run of the presentation. Each school will walk through their presentation in the Conference Center & get feedback on their presentation from project coordinators, faculty and their liaison(s). The schedule is fairly tight, so come prepared with your laptop and presentation.
  Note: this is Faculty Summit Day 1 (9-5)

July 18: Work day with your team & liaison to incorporate feedback
| Evening Event TBD
Note: this is Faculty Summit Day 2 (9-5)

July 19: Design Expo formal presentations. Exact time TBD
Afternoon debriefing and awards. Exact time TBD
Closing party 7:00-10:00
Note: This is the day of Faculty Summit Workshops

July 20: Faculty/Students departure

We are still finalizing the schedule.