# HCI Group Coursework

The ACM Conference on Human Factors in Computing Systems (CHI) is the most prestigious venue for HCI research. Each year the conference hosts a student design competition. Teams compete to address a design challenge set by the conference organizing committee. The challenge set at for CHI 2023 is described below. In this coursework you will work in a team and develop a solution to this design challenge.

## The CHI 2023 Design Brief: Appropriate Solutions for All [1]

At CHI 2023 Student Design Competition asks you to contribute to one (or several) of the 17 Sustainable Development Goals identified by the United Nations:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequality
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals

The scope of this brief is deliberately broad to provide the opportunity to participate to as many students worldwide as possible. Your solution has to be clearly linked to one (or several) of the 17 Sustainable Development Goals.

You may adopt design strategies such as participatory design, co-creation and co-design, service design, design for social innovation, inclusive design and open innovation. You may adopt a participatory design and co-creation approach using existing technologies or you may find opportunity in contemporary developments in technology, such as 3D printing, digital fabrication, citizen sensing, the maker movement, the sharing economy, big data, social networks, IoT, gamification, new sensors and actuators, and Augmented/ Virtual Reality, to name just a few. Remember, though, that sometimes the best design solution or approach may flow from simple yet sharp insights uncovered from research, and might require only minimal technology – what is important is that your solution should be appropriate for the particular goal you are focusing on.

[1] This brief is copied directly from https://chi2023.acm.org/for-authors/student-design-competition/

For this year's design challenge, we particularly encourage that the following criteria be considered as guidelines:

- Is your design clearly linked to one of the Sustainable Development Goals?
- Does your design specify and solve a relevant and "burning" problem?
- Does your design use technology in an appropriate and novel way?
- Was the design well-crafted and effectively presented?
- Was the design validated in an appropriate and valid way to demonstrate the fulfillment of your design goal?
- Was relevant prior work properly identified and cited?
- Were analysis, synthesis, design, and evaluation systematic and sufficient?
- Was the design developed far enough to demonstrate the key ideas?
- ~~Were genuine stakeholders involved in the process of research, development, and evaluation?~~
- ~~Were the research process and the involvement of stakeholders ethically appropriate (e.g., were institutional guidelines followed)?~~
- Did the team explore the entire ecosystem of stakeholders, conditions, and contexts?

**Note:** For the purposed of the coursework, you are not expected or allowed to work directly with stakeholders. As such two of the points in the original CHI 2023 evaluation criteria above have been crossed out.

# Teams

The teams are as set out on BrightSpace.

# Submitting

## Submissions

The following three items should be submitted as a single zip file, using the file name format ***groupNumber_YourName_A1.zip*** (e.g. group5_DavidCoyle_A1.zip).

### A Paper

Teams will submit a paper, up to 8 pages long (including references) following the ACM Master Article Submission Templates (single column). Submissions not meeting the page limit or formatting requirements will be automatically disqualified. This document should be submitted as a single PDF and the file must be no larger than 10 Mb in size.

The paper should include:

- An introduction describing the overall idea and how it addresses the design challenge.
- Evidence that you considered the stakeholders, conditions, and contexts in which your proposed solution would be used. E.g., a description of the important characteristics of the users of the system, the key tasks performed by users, and important characteristics of the task environment.

- A description of the requirements and goals of your system. It is important this you demonstrate how these requirements and goals respond to both the design challenge and to the specific users, tasks and contexts identified.
- A review of relevant HCI literature. This does not need to be extensive but should show how your solution relates on prior HCI literature.
- Evidence of the initial ideation process where different options were considered. The key point here is to demonstrate how the requirements were used to develop a set of design alternatives for your problem. It is to come up with *several* different design ideas/concepts, not just a small set of variations from some basic design. The paper should include at least three different design concepts.
- A summary of the design principles, approaches, and sources of inspiration applied in developing your solution.
- A description of your proposed solution, the real life problems that you are solving, and your main claims for your proposed solution. Teams may present either a concept (a clear, detailed design specification that can be expressed through a low fidelity prototype), or a fully realized prototype. Either way, teams must clearly illustrate their design decisions and demonstrate the design processes that have been followed.
- You are not required to evaluate you solution with real users, but should apply other evaluation methods to validate your design.
- Any other supplementary materials you develop, e.g. personas, sketches, should be included in as an appendix to the paper. It is not included in the 8-page paper limit.

**A prototype**

The paper should describe a final solution. Separate to this you must submit a prototype. This could take various forms, e.g., sketches, a presentation, a physical or software prototype. Using these materials you must then create a 5 minute video. This videos should be submitted alongside the paper.

The video may illustrate how your solution fits the lives of the users with the help of scenarios, or addresses human aspects of the chosen sustainable development goals. It may also illustrate some details of the interface and the information presented. The Video may include:

- Examples of significant contextual data and its analysis (primary, secondary research, or both)
- Key creative sources of design inspiration (existing designs and systems)
- Sketches of the evolving solution
- Scenarios depicting how the solution fits in the life of users and solves problems / engages or entertains users
- Details of the interface and information design where relevant

**An individual reflection**

You must also submit a one-page personal reflection. This should reflect on the lessons learned in the assignment and describe your individual role in the team assignment.

## Deadline

See BrightSpace