

SUTD Sustainable Design Hack

Submission Guide for Category B

Submission Format: A 7-minute video clip that (1) details the use of the Design Thinking Process and (2) explains the viability of the proposed solution to the problem statement. The submission requires the presentation/depiction of a digital/physical prototype as well as proof of concept (demonstration/justification that the idea is feasible, via research/surveys/testing (non-exhaustive). Teams do not have to answer all the suggested guiding questions, nor is the list of suggested guiding questions exhaustive.

Note: Teams who have been shortlisted for the Finals will be asked to screen their submitted video clip for the judging in the Final Event, followed by a 5-minute Q&A section with the judging panel.

The Design Thinking Process

The first diamond helps people understand, rather than simply assume, what the problem is.

- **Discover Activity** used.
- **Suggested Guiding Questions**
 - Who are the users and stakeholders?
 - What are their needs?
 - How might we delight them and their experiences?
 - What are their actions, reactions and emotions?
 - What is the context?
 - How do users behave?
 - How do they feel?
 - How do we see through their eyes?
 - What extreme conditions may inform us?
 - How do they interact with objects, the environment, and each other?

The insight gathered from the discovery phase can help you to define the challenge in a different way.

- **Define Activity** used.
- **Suggested Guiding Questions**
 - Who are the primary users?

- What activities do the users engage in?
- What are the users' journeys and emotions?
- What system functions are needed?
- How do we make sense of these findings?
- What are the key insights and foresights?
- How might the Products, Services and Complex Systems (PSS) fare in different situations?
- What are driving social needs and technical specifications?
- **What is our developed Problem Statement?**

The second diamond encourages people to give different answers to the clearly defined problem, seeking inspiration from elsewhere and co-designing with a range of different people.

- **Develop Activity** used.
- **Suggested Guiding Questions**
 - How do we ideate?
 - What are key methods we might use?
 - How do we maximise quantity?
 - What analogies may be used?
 - How do we add depth and fidelity?
 - How do we down-select ideas that "wow"?
 - What are the top ideas to emerge from this sprint?
 - How do we increase and embrace playfulness?
 - How might ideas be combined to create improvements?

Delivery involves testing out different solutions at small-scale, rejecting those that will not work and improving the ones that will.

- **Deliver Activity** used.
- **Suggested Guiding Questions**
 - What prototyping principles should be used?
 - How might we build the virtual or physical prototype?
 - How might DIY concepts be applied?
 - What questions need to be answered by the prototype?
 - How do we engage users?
 - What is the minimum sample size?
 - How might we mix and utilise both quantitative and qualitative results?

Presenting the Proposed Solution

- **What is our Proposed Solution?**
- **How does our Proposed Solution look? (digital/physical prototype, proof of concept)**

Our proposed solution is **effective** because:

- **Suggested Guiding Questions**
 - How can we address the specific problem that we have pointed out? To what degree does it address the specific problem?
 - How does our proposed solution continue to deliver results sustainably into the long run?
 - How does our proposed solution synergise with existing environments/infrastructure/frameworks such that it does not leave a negative ecological footprint?
 - How does our proposed solution avoid/minimise unintended negative consequences?
 - How can we use statistics/research/studies to validate our results?

Our proposed solution is **feasible** because:

- **Suggested Guiding Questions:**
 - How can our proposed solution be scaled up for larger communities/settings?
 - How could our proposed solution fit into/work with existing infrastructure? OR How could the transition from the current situation to our proposed solution take place?
 - How is our proposed solution financially feasible? Who could potentially provide financial support for the hypothetical implementation of our proposed solution?
 - How is our proposed solution going to be popular with its users?

Our proposed solution is **innovative** because:

- **Suggested Guiding Questions:**
 - How does our proposed solution compare against existing solutions?
 - How does our proposed solution solve a problem in a novel way that existing solutions do not?
 - How does our proposed solution plug the gaps that existing solutions do not address?
 - How does our proposed solution incorporate innovative technology to solve the problem?