# DESIGN THINKING PROJECT

**ASSESSMENT TASK 1 & 2: Design Thinking Project**

In this subject, you will work in a team of 5 students for a project to design the application/devices of your selected project scope.

You are going to use design thinking mindset, processes and methods to complete the project.

You are required to:

* Understanding the challenge and requirements of designing for your specific project.
* Prepare and conduct research to gather information and inspiration
* Interpret research results to identify design opportunities
* Define the design focus
* Generate and refine design ideas
* Build and test **low-fi (paper) prototypes** iteratively
* Reflect upon your experience of the design thinking processes and teamwork

**Design Challenge:**

**Your team will choose between one of the following projects:**

**Sustainability Project**

This project is designed with the vision of bring together information technology and creativity to provide insights for making your city more sustainable and to reduce the environmental impact of residents in the city. Technologies such as sensors, smartphones, intelligent software, big data, and Internet of things have opening up many new possibilities to transform how we live and work, making sustainable living more accessible than ever.

Example of possible project areas:

- Intelligent recycling disposal

- Energy consumption monitoring systems and technologies

- Carpooling or public transport enabling apps

**Health and Wellbeing Project**

The purpose of this project is to utilise current technologies to enable or encourage people to be more aware of their lifestyles, and the impact on their health and wellbeing. Big data, mapping, wearable technologies and smartphones all allow for more access to information, and more immediate ability to gather information.

Example of possible project areas:

- Exercise monitoring/logging technologies

- Diet management tools

- Basic mental health tools (stress/anxiety, calming activities)

**Team formation:**Teams are formed based on self-selection with some assistance from lecturer.

Activities in week 1-4 pracs will help you to get to know other students and engage in various team activities. Project teams will be formed in week 4 workshops.

**Assessments:**

There are 2 assessment items related this project:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Assessment Types | Weight (%) | Task structure | Marking | Due date |
| Assessment 1 | Project Plan | 15 | Group | Group | Due Friday 5pm, 2 Sept, 2016 |
| Assessment 2 | Project Report | 50 | Individual + Group | Individual | Due Friday 5pm,  30 Sep, 2016 |

**ASSESSMENT TASK 1: Project Plan**

|  |  |
| --- | --- |
| Aligned course & subject learning outcomes | SLO 1 & 3  CLO K1, K2, S1, S3 & S5 |
| **Group or individual** | *Group* |
| **Weighting** | *15%* |
| **Due date** | Due Friday 5pm, 2 Sept, 2016 |

**ASSESSMENT TASK 1: DESCRIPTION**

This assessment is the start point of the design thinking project. You are going to organize your team and define a specific project topic.

**Tasks:**

1) You are going to do some preliminary research about what are smart city applications and related information technologies.

2) Your team will organize at least 1 meeting to:

* Share preliminary research results and ideas about smart city applications
* Generate ideas possible topics for the project
* Decide a specific project topic
* Develop a project plan
* Setup team ground rules and management

**Submission:**

Each team is to submit a single MS word / PDF document to LearnJCU

The document should include:

* A written project plan using the template given
* A team meeting minutes using the template given
* Secondary research, interview notes, insights from each team member
* Group Assignment Cover Sheet

**Project Plan Template**

Empathy Map

Point –of- View Madlib

List of possible topics considered

|  |  |  |
| --- | --- | --- |
|  | Topic | Suggested by |
| 1 | How might we… | Adam Smith |
| … | How might we… | Adam Smith |

Selected Project Topic

Team Name

Team Members & Roles

|  |  |  |
| --- | --- | --- |
| Name: | Student ID: | Roles: |
|  |  |  |
|  |  |  |
|  |  |  |

Team collaboration plan

* Preferred communication methods (e.g. email, skype, facebook, etcs)
* How to share information and files (e.g. dropbox, google drive, trello)
* Plans to monitor team’s progress
* Team culture or rules
* Preferred conflict management style

Preliminary project meeting schedule:

|  |  |  |
| --- | --- | --- |
| Meeting | Plan | Objectives |
| 1 | Date: Time: Venue: | ( < 50 words) |
| .. |  |  |

Signatures:

|  |  |  |
| --- | --- | --- |
| Name: | Signature | Date |
|  |  |  |
|  |  |  |

Appendix: Team meeting Minutes

Appendix: Research notes, interview notes and insights from each member **Team Meeting Minutes Template**

Name of Team:

Date of Meeting: Start Time: Finished Time:

Members present:

Members absent:

Meeting Chairperson:

Minutes taken by:

Summary of Meeting: (what have been discussed?)

Actions for Team members:

|  |  |  |
| --- | --- | --- |
| Actions to do | Who will do this work? | By When? |
|  |  |  |
|  |  |  |
|  |  |  |

Next Meeting Date:

Next Meeting Time:

Meeting chairperson sign to approve of this meeting minute:

Name: Signature: Date:

**Research notes, interview notes and insights Template**

Secondary Research Notes:

|  |  |  |
| --- | --- | --- |
|  | **Source:** | **Insights:** |
| **1** | Samsung smart things, http://www.samsung.com/uk/smartthings/ | A smart hub is used by Samsung to control different appliances at home, one of their objective is to create a safer home |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |

**Interview notes:**

Interview Date:

Interview Time:

**Personal details**: who did you meet (profession, age, location, etc)?

**Interesting stories**: what was the most memorable and surprising story?

**Motivations**: what did this participant care about the most? What motivates him/her?

**Frustrations**: what frustrated him/her?

**Interactions:** what was interesting about the way he/she interacted with his/her environment?

**Remaining Questions**: what questions would you like to explore in your next conversation or in other interviews?

**Assessment 1 Project Plan (15%, Group Work)**

Marking Criteria for Project Plan:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Exemplary** | **Competent** | **Marginal** | **Unacceptable** |
| Research & Interview notes  SLO: 3  CLO: S1 & S3 | 9 Demonstrate exemplary research effort and understanding of key concepts and elements related to smart cities and potential of related IT technologies.  Research notes and interview notes from all members are included and clearly written | 6 Demonstrate some research effort and understanding key concepts and elements related to smart cities and potential of related IT technologies.  Research notes and interview notes from all members are included | 3 Demonstrate little research effort and understanding key concepts and elements related to smart cities and potential of related IT technologies.  Research notes and interview notes from some members are included | 0 Little or no research effort and understanding key concepts and elements related to smart cities and potential of related IT technologies.  Research notes and interview notes are missing |
| Empathy Map  Point –of- View Madlib  SLO: 3  CLO: K1 & K2 | 9 Demonstrates exemplary ability to analysis and identify user needs related to the design challenge  Empathy map and POV have tightly align with interview / research notes / insights | 6 Demonstrates competent ability to analysis and evaluated concepts and ideas related to the project topic.  Empathy map and POV have no more than 2 minor issues, not align with interview / research notes | 3 Demonstrates marginal ability to analysis and evaluated concepts and ideas related to the project topic.  Empathy map and POV have more than 2 minor issues, not align with interview / research notes | 0 Unacceptable ability to analysis and evaluated concepts and ideas related to the project topic.  Empathy map and POV have very loose alignment with interview / research notes |
| List of possible topics  SLO: 3 | 9 Demonstrate exemplary ability to find opportunities for design and frame a design problem.  Provide > 3 topics from each member | 6 Demonstrate competent ability to find opportunities for design and frame a design problem.  Provide >2 topics from each member | 3 Demonstrate marginal ability to find opportunities for design and frame a design problem.  Provide 1-2 topics from each member | 0 Unacceptable ability to find opportunities for design and frame a design problem.  Provide <1 topics from each member |
| Team members roles, Preliminary meeting plan & Team meeting minutes:  SLO: 2  CLO: S5 | 9 Demonstrates appropriate consideration of project tasks required in relation to meeting schedules.  Team meeting minutes is clearly written and provides clear evidence of work allocation and excellent team management. | 6 Demonstrates some consideration of project tasks required in relation to meeting schedules.  Team meeting minutes provides some evidence of work allocation and appropriate team management | 3 Demonstrates little consideration of project tasks required in relation to meeting schedules.  Team meeting minutes provides some evidence of work allocation but may not reflect appropriate team management | 0 No or very little consideration of project tasks required in relation to meeting schedules.  Team meeting minutes provides no evidence of team management |
| Team collaboration plan  SLO: 2  CLO: S5 & S1 | 9 Demonstrates exemplary ability to work in collaboration with others towards a common purpose or agreement  All team collaboration and management are clearly setup clearly | 6 Demonstrates competent ability to work in collaboration with others towards a common purpose or agreement  All team collaboration and management are clearly setup | 3 Demonstrates marginal ability to work in collaboration with others towards a common purpose or agreement  Some team collaboration and management are setup | 0 Unacceptable ability to work in collaboration with others towards a common purpose or agreement  No or inadequate team collaboration and management are setup |
| Writing  CLO: S1 & S3 | 6 Uses appropriate language that conveys meaning to readers with clarity and no errors. | 4 Uses appropriate language that conveys meaning to readers with clarity and minimal errors. | 2 Uses appropriate language that generally conveys meaning to readers, although writing may include a few errors. | 0 Language used is not clear and /or does not convey meaning to readers. It contains frequent grammatical errors. |

**Assessment 2   
Final Project Report (50%, Group Activity, Individual Report Submission)**

While the design thinking project is a group task, each student is required to prepare a final report for the project.

You will receive an individual mark for the report.

**Tasks:**

1. You are to participate and contribute to the team project in every design thinking processes.
2. You are to participate and contribute to team meetings.
3. You may organise, chair, or take minute in team meetings.
4. You are to complete the design workbook (download from LearnJCU)

**Submission:**

Team should ensure the project final prototype is ready for exhibition in week 13.

Each student is to submit a single MS word / PDF document to LearnJCU

The document should include:

* Completed the design workbook using the template given
* Team work contribution report using the template given
* All team meeting minutes using the template given
* Individual Assignment Cover Sheet

**Design Workbook Template**

Team Name:

Project Topic:

Student Name:

Student ID:

Summary of the Design Thinking Processes:

Empathy: ~ 200 words

* Describe the empathy methods used by your team in this project
* Images/sketches produced during this process
* Describe major insights from the empathy process

Define: ~ 200 words

* Describe the methods used by your team in the define design thinking process
* Create a composite character profile and POV want ad for your project

Ideation: ~ 200 words

* Describe the ideation methods used by the team to generate ideas
* Images/sketches produced during the ideation
* Describe the methods used by the team to select what to prototype

*Each team build 1 prototype idea in each iteration, each member conduct 1 user test in each iteration, you may need to build multiple copies of the same prototype idea so that different members can use the prototypes copies for user testing*

Prototype and Test (Iteration 1) ~ 200 words

* Images of prototype
* Describe procedure for testing done by you
* Images of notes/photos from testing done by you
* Describe insights from your own and your team members’ users testing
* Describe what are changes to the prototype in the next iteration

Prototype and Test (Iteration 2) ~ 200 words

* Images of prototype
* Describe what have been changed from previous iteration
* Describe procedure for testing done by you
* Describe notes and insights from testing done by you
* Describe insights from your team members’ testing
* Describe what are changes to the prototype in the next iteration

Final prototype

* Images of final prototype

Appendix: Team meeting Minutes

Appendix: Teamwork Contribution Report **Teamwork Contribution Report Template**

**My contributions for each design thinking process:**

|  |  |
| --- | --- |
| **Project Work** | **Contributions**  Clearly state the date and describe the tasks you have done for each of the project work components |
| Discovery | 1/3/2015conduct 2 interviews with potential users |
| Interpretation | 3/3/2015 Shared data in team meeting |
| Ideation | 3/3/2015 Suggested 5 ideas in brainstorm meeting |
| Prototyping |  |
| Testing |  |
| Team management and information sharing | 3/2/2015 Created Google drive and setup folder sharing among team members |

**My contributions for each team meeting**

|  |  |  |
| --- | --- | --- |
| **Meetings** | **Role in meeting** | **Contributions** |
| Meeting 1 (3/3/2015) | Chairperson / participate/ minute taking | Suggest x and y ideas.  Shared results of data gathering |
| **..** |  |  |
| **..** |  |  |
|  |  |  |

**Team Meeting Minutes Template**

Name of Team:

Date of Meeting: Start Time: Finished Time:

Members present:

Members absent:

Meeting Chairperson:

Minutes taken by:

Summary of Meeting: (what have been discussed?)

Actions for Team members:

|  |  |  |
| --- | --- | --- |
| Actions to do | Who will do this work? | By When? |
|  |  |  |
|  |  |  |
|  |  |  |

Next Meeting Date:

Next Meeting Time:

Meeting chairperson sign to approve of this meeting minute:

Name: Signature: Date:

**Assessment 2   
Final Project Report (50%)** Marking Criteria for Final Project Report

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Criteria | Exemplary | Competent | Marginal | Unacceptable |
| Empathy  SLO : 1 & 3  CLO: A2, K1, K2, K3 & S3 | 9  Report clearly demonstrates all of the following abilities:   * identify the key elements of the problem * plan and execute research and interview effectively * develop empathy of the end users | 6  Demonstrates all of the abilities listed on the left. | 3  Demonstrates 2 of the abilities listed on the left | 0  Demonstrates less than 2 of the abilities listed on the left |
| Define  SLO : 1 & 4  CLO: K1, K2 & S3 | 9  Report clearly demonstrates all of the following abilities:   * capture and share learning from interviews and observations * search for meaning and themes from observations * frame an actionable design idea | 6  Demonstrates all of the abilities listed on the left.  Report contains 1 minor error in executing DT processed and using of related tools | 3  Demonstrates at least 2 of the abilities listed on the left  Report contains at most 3 minor errors in executing DT processed and using of related tools | 0  Demonstrates less than 2 of the abilities listed on the left  Report contains some major errors in executing DT processed and using of related tools |
| Ideation  SLO : 1 & 4  CLO: K1, K2 & S3 | 9  Report clearly demonstrates all of the following abilities:   * generate project ideas * evaluate and select promising project ideas * describe project ideas clearly | 6  Demonstrates all of the abilities listed on the left.  Report contains 1 minor error in executing DT processed and using of related tools | 3  Demonstrates at least 2 of the abilities listed on the left  Report contains at most 3 minor errors in executing DT processed and using of related tools | 0  Demonstrates less than 2 of the abilities listed on the left  Report contains some major errors in executing DT processed and using of related tools |
| Prototype &  Test  SLO : 1 & 4  CLO: K1 & K2 | 18  Report clearly demonstrate all of the following abilities:   * prototyping for evaluating project ideas * plan and conduct user testing to get feedback * capture and interpret testing feedback * integrate feedback in iterative prototypes   Final prototype provides an exemplary / innovative solution to the problem with excellent consideration of interaction design principles and design aesthetics | 12  Demonstrates all of the abilities listed on the left.  Report contains 1 minor error in executing DT processed and using of related tools  Final prototype provides an adequate solution to the problem | 6  Demonstrates at least 2 of the abilities listed on the left  Report contains at most 3 minor errors in executing DT processed and using of related tools  Final prototype provides partial solution to the problem | 0  Demonstrates less than 3 of the abilities listed on the left  Report contains some major errors in executing DT processed and using of related tools  Final prototype provides no or little solution to the problem |
| Contributions to project team work  SLO : 2  CLO: A2 | 9  Report clearly describes contributions to each project work components  Report demonstrates clear evidence of substantial and pro-active contributions to all project work components | 6  Report clearly describes contributions to each project work components  Report demonstrates clear evidence of substantial contributions to all project work components | 3  Report describes contributions to each project work components  Report demonstrates clear evidence of adequate contributions to some project work components | 0  Contributions to each project work components are unclear  Report demonstrates no or little evidence of contributions to project work |
| Contributions to Team meeting  CLO: A2 | 9  Report clearly describes contributions to all team meetings  Report demonstrates clear evidence of substantial and pro-active contributions to all team meetings | 6  Report clearly describes contributions to all team meetings  Report demonstrates clear evidence of substantial contributions to all team meetings | 3  Report describes contributions to some team meetings  Report demonstrates clear evidence of adequate contributions to some team meetings | 0  Contributions to each project work components are unclear  Report demonstrates no or little evidence of contributions to each project work components |