

# Computing Research Project

Assignment introduction and Research proposal



# The assignment is about

- To offer students the opportunity to engage in sustained research in a specific field of study(DW)
- To enable students to demonstrate the capacity and ability to identify a research theme(DW)
- To develop research aims, objectives and outcomes
- To present the outcomes of such research in both written and verbal formats

# Choosing a research objective/question

- Students are to choose their own research topic for this unit
- One of the best ways to do this is to put it in the form of a question
- Students should be encouraged by tutors to discuss a variety of topics related to the theme(DW) to generate ideas for a good research objective

## **The range of topics discussed could cover**

- How to find the balance towards a healthy relationship with devices?
- Are tech companies responsible for the health, safety and wellbeing of users?
- What tools and strategies can a company use to develop a system(s) that addresses digital wellbeing for users?
- What impact will future digital tech have on human wellbeing?

# The research objective

- Should allow students to broaden their understanding and widen their perspective of being able to explore, argue, prove, and/or disprove a particular objective
- Should be
  - Feasible(able to be made, done, or achieved)
  - Novel(new and original, not like anything seen before)
  - Ethical(relating to beliefs about what is morally right and wrong)
  - Relevant and ultimately of interest to the student

# Project Evidence / Outcomes

- Project work is reliant on gathering information/data that can be analysed
- The scale of the project means that there must be time for both primary and secondary research.
- An advised model would be to use secondary research to provide a context for the students to conduct and interpret primary data collection.
- The project could then yield data that could be compared with the findings of secondary research information.

# Student research

- Should outline the literature/theories that supports the identified research objective/s
- And include critical evaluation of central arguments paying attention to whether or not the arguments are logically valid
- Explaining how their ideas have developed
- The significance of results and what they have learnt about the methodology of research.

# The format of student work

- Both verbal and written forms of communication should be appropriate
- If a verbal presentation is the chosen format, the question and answer session should address issues raised by the presentation, but also give students an opportunity to review their work.



# Research project's forms

- Dissertation
- Feasibility study
- Investigation/fieldwork

# Research proposal

- The three main functions of a proposal, according to Locke et al. (1993,pp. 3–5)
  - a means of communication from the researcher to those who will assess, approve and possibly fund the work
  - a plan for action to describe the scope, aims, step-by-step procedures and expected outcomes of the work
  - a contract that will form the basis of agreement between the parties involved, e.g. the researcher, supervisors, funders, institutions (e.g. university or college); the signed agreement cannot be substantially altered without the agreement of all the parties

# Component of a research proposal

- The title
- Aims of the research
- The background, the research problem,
- Possible outcomes
- Outline of methods
- Selected bibliography

# Example of project proposal(1)

## Research Proposal Form

**Student Name:** Hoang Van A

**Student Number:** GCH00011

**Tutor:** Do Quoc Binh

**Date:** 6/6/2014

**Unit 13:** Computing research project

**Propose title:** The roles of AI and Autonomous vehicles

# Example of project proposal(2)

## Section One: Title, objective, responsibilities

### Research question:

What are the roles of AI in autonomous vehicles?

### Objectives

I want to learn:

- What are autonomous vehicles?
- What autonomous vehicles can help people?
- Are autonomous vehicles helpful and used widely nowadays?
- What is AI in general?
- How AI important in autonomous vehicles?
- Is AI used popular in daily live?
- What companies are using AI in autonomous vehicles?

# Example of project proposal(3)

## Section Two: Reasons for choosing this research project

Reasons for choosing the project

- I am interested in the potentials of AI in general and autonomous vehicles in particular
- I am planning to have project about AI in my final year
- Autonomous vehicles is a topic which many companies are researching so it would help me to find research material easier.
- I think autonomous vehicles will be popular in my country in coming years

(e.g. links to other subjects you are studying, personal interest, future plans, knowledge/skills you want to improve, why the topic is important):

# Example of project proposal(4)

## Section Three: Literature sources searched

The initial sources which could help me to answer those questions:

1. Document 1/ URL 1/book 1..
2. Document 2/ URL 2/book 2..
3. Document 3/ URL 3/book 3..
4. Document 4/ URL 4/book 4..

Use of key literature sources to support your research question, objective or hypothesis:

# Example of project proposal(5)

The Tutor needs to set major milestones for students(example bold text in the screen shots)

## Section Four: Activities and timescales

1. Collect materials relating to research's question and objectives
2. Complete research proposal
3. **Milestone 1[11-6]:** Get feedback from the Tutor about the research proposal
4. Produce project plan
5. Writing literature review and represent the findings in term of hypothesizes
6. Check project progress: research proposal, plan, literature review
7. Preparation for primary research(to confirm the findings in literature review or clarify the questions might arise after the literature review)
8. **Milestone 2[25-6]:** Get feedback from the Tutor about the plan of primary research.
9. **Milestone 3[27-6]:** Get feedback from the Tutor about the result of literature review
10. Conducting the primary research
11. **Milestone 4[16-7]:** Represent the findings in primary research and get feedback from Tutor
12. Writing assignment 1 which contains LO1, LO2
13. **Milestone 5[29-7]:** Submit assignment 1 -Draft
14. **Milestone 6[1-8]:** Submit assignment 1- Final



# Example of project proposal(6)

## Section Five: Research approach and methodologies

- Research process: sequential
- Research classes: quantitative and qualitative
- Research methods: case study, survey

Type of research approach and methodologies you are likely to use, and reasons for your choice:

What your areas of research will cover:

- Read at the slide [Writting a research question.pptx] and write a **research question** for you project and than ask your tutor to check the suitability of the question.

- Has discussed the suitability of a computing research project for Unit 13
- Has shown the example of project proposal, a required document in this research project