CHOOSING A TOPIC / PROJECT AND RITING A PROPOSAL

To introduce techniques for choosing an appropriate project, and to discuss the skills needed to write a satisfactory project proposal.

Goals

- Choose an appropriate project.
- Write a project proposal.
- Make effective decisions when choosing your project supervisor.

When choosing your project, keep these important principles in mind.

- You must be capable of doing the proposed project in the time available
- Choose a project that interests you
- Consider your personal development and choose a project that will assist you in your goals.

- Your project should have a serious purpose and a clear outcome that will benefit someone.
- Your project links suitably with your degree course
- Your project is of sufficient scope and quality to fit the requirements of your course
- The resources you require for your project are available or can be obtained; for example, oftware, hardware, a particular client, user or organisation

Where to get informations

- ***Lecturers'/departmental lists***
- ***Industrial projects***
- ***Past projects***
  - how you could develop thework further
- ***Talking with colleagues***
- ***Reading around subject areas***
  - you can often discover areas that authors have identified as requiring further research and development
- ***Clustering***

Additional considerations

- ***The 'so what?' test***
  - Ask yourself, Is the topic meaningful?
  - will it be of value to anybody?
  - What contribution will it make?

JUSTIFICATION !!!!!!

Additional considerations (conti…)

- *What do you already know?*
- *Ethical issues*
- **Data protection**

Data protection

- Data should only be used for the specific purpose for which it was gathered in the first place.
- Individuals have the right to access data held about them.
- Data may not be disclosed to third parties without permission of the individual.
- If personal data are kept, these data must be appropriately protected.
- Personal data should be kept for no longer than necessary.

Writing Proposal

- There are no universal standards for project proposals
- Mostly, it contains *implicit content and explicit content*.

Implicit content

- **Introduction to the subject area**
- **Current research in the field**
- **Identify a gapIdentify a gap**
- **Identify how your work fills the gap**
  - This will emphasise the *contribution* *your project* will make.
- **Identify risks and solutions**

Explicit sections

- *Title*
- *Introduction/background/overview*
- *Related research*
- *Methods*

TITLE Should be clear and concise. Try to avoid using acronyms if possible

- ‘Evaluation of soft systems methods as analysis tools in small software houses’;
- ‘Artificial neural networks for software development cost estimation’;
- ‘Development of process models for building graphical software tools’.

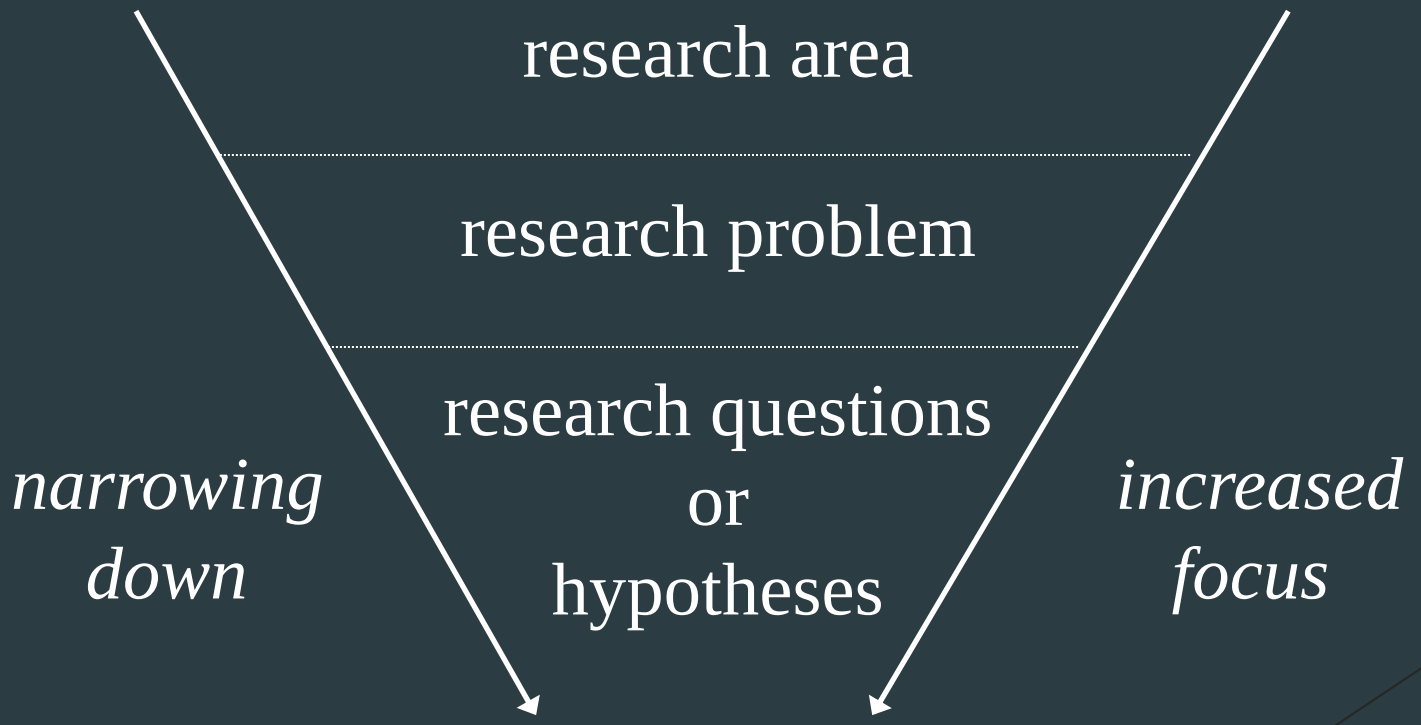
- TRY TO MAKE YOUR TITLE

Introduction

- **Background**
- ***Research problems***
- ***Research questions and hypotheses***
- ***Aim***
- ***Objectives.***
- ***Expected outcomes/deliverables***

Refining the research topic

From research area to research questions



Research area, problem, question

Research area =

- general research area which you are interested in

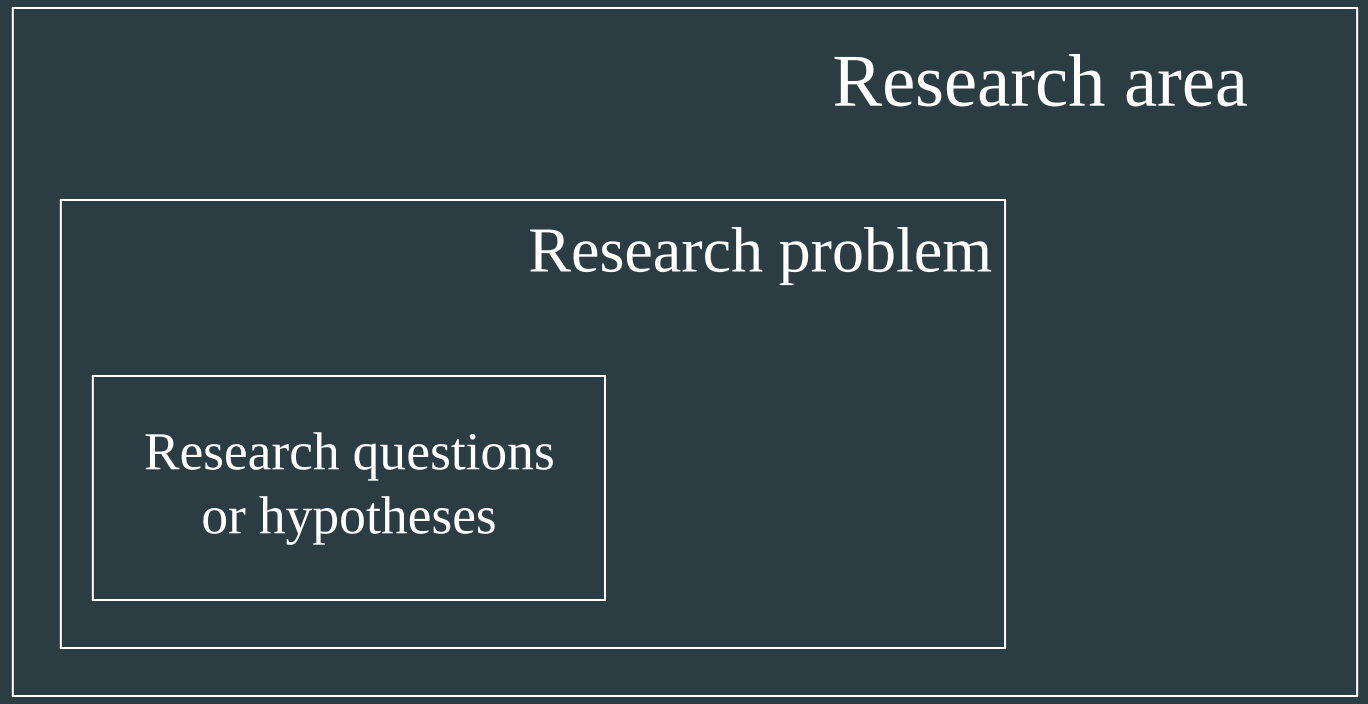
Research problem =

- specific issue which you are investigating

Research questions/hypotheses =

- actual questions you try to answer
- specific hypotheses you plan to test

From research area to research questions



Research area, problem, question - an example

Research area/topic =

electronic commerce

Research problem =

design of effective e-commerce web sites

Research question/hypotheses =

how does web designer training affect performance of web sites?

Research problems

Research questions and hypotheses

Aims and objectives

- Aims identify at the highest level what it is you hope to achieve with your project – what you intend to achieve overall. An aim is a broad statement of intent that identifies your project's purpose.
- Objectives, on the other hand, identify specific, measurable achievementsthat build towards the ultimate aim of your project. They are more precise than aims

Aim

- Evaluate artificial intelligence techniques for modelling weather patterns

Objectives

- Identify and evaluate existing weather pattern modelling techniques.
- Identify artificial intelligence approaches suitable for modelling weather patterns.
- Design and develop at least three artificial intelligent systems for modelling weather patterns.
- Compare and contrast the developed systems with one another and existing
- approaches to modelling weather patterns.

EXRCISES

- MAKE YOUR OWN AIM AND OBJECTIVES BASED THE TITLE MADE

Expected outcomes/deliverables

This section of your proposal will identify precisely what you intend to submit at the end of the project

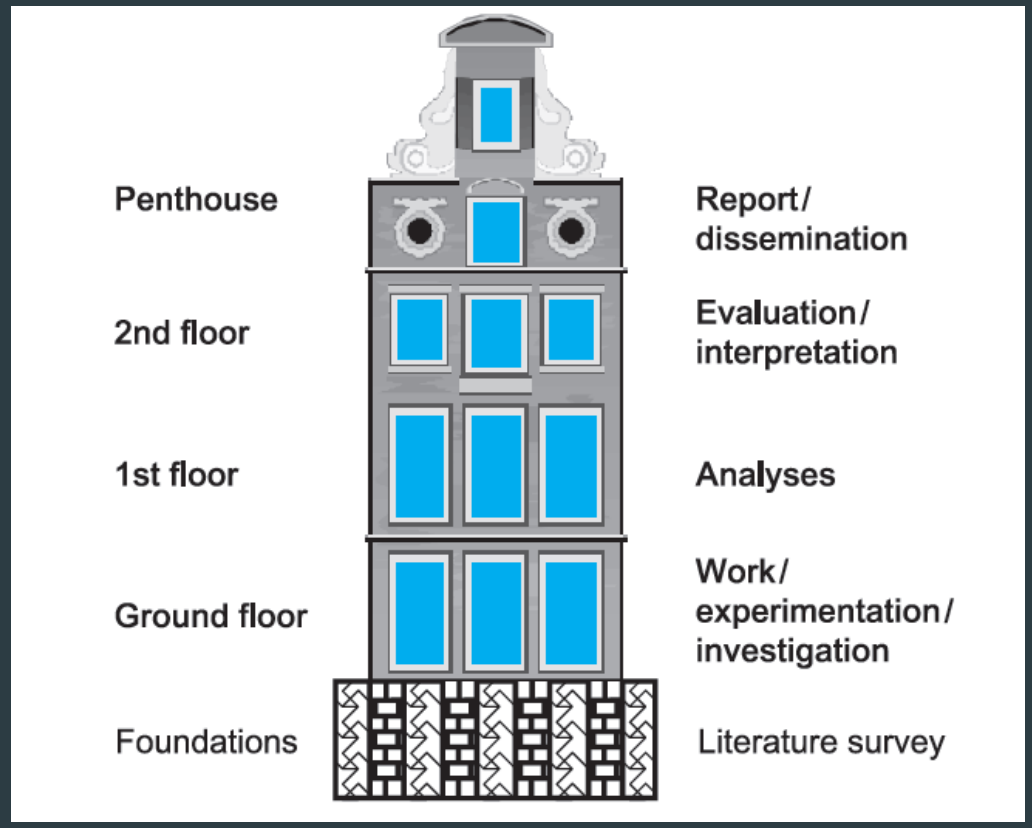
- a written report
- a piece of software, a prototype, or a test plan
- Journals
- Hak Paten

Related research

- This section identifies other work, publications and research related to your topic
- It will demonstrate that your project does not exist in an academic vacuum but relates to other research topics and fields of current interest.
- Demonstrate your understanding of your topic area, showing the reader that you are
- aware of what is currently happening in the field

A literature survey/related research serves a number of purposes

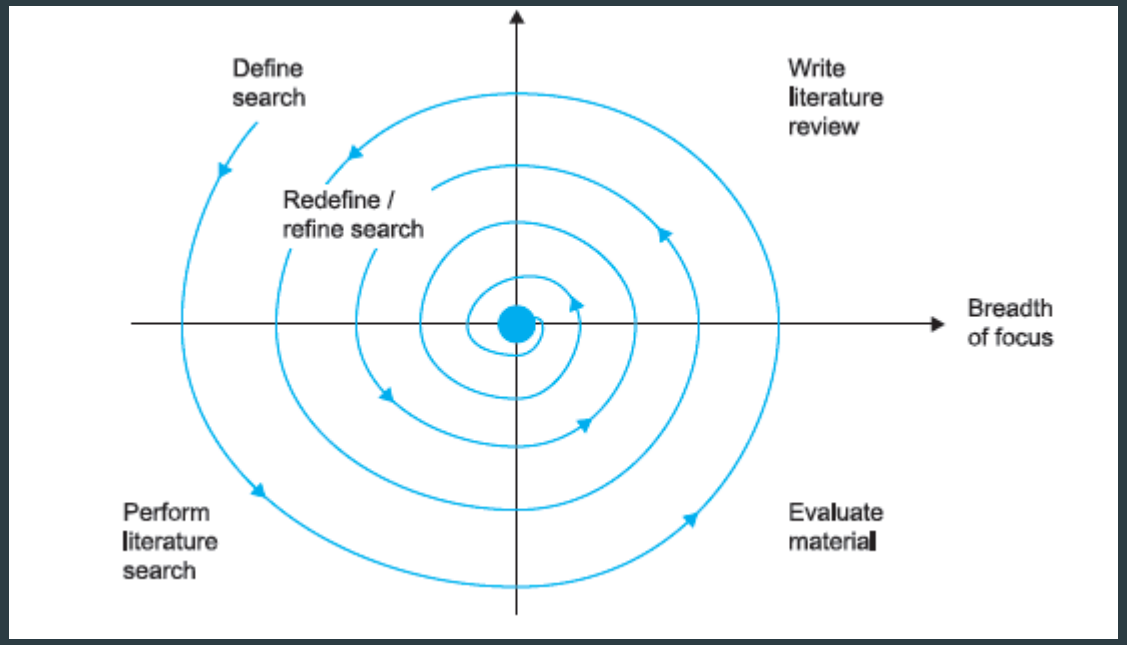
- It justifies your project
- It sets your project within context by discussing and critically evaluating past and current research in your area
- It provides other researchers with a starting point from which they can understand


Penthouse
2nd floor
1st floor
Ground floor
Foundations
Report/ dissemination
Evaluation/ interpretation
Analyses
Work/ experimentation/ investigation
Literature survey

The literature survey process

- *search and*
- *review*

The literature survey process



Literature searching

- literature search is a '*systematic gathering of published information relating to a subject*'

There are two golden rules when performing a literature search:

- Allow plenty of time
- Ensure that you make note of the full reference of any material you obtain
  - Books
  - Journals
  - Proceedings
  - CD/DVDs
  - Company Reports
  - Theses
  - Manuals
  - Software, Internet,

Internet

Some points that you should consider when evaluating the quality of material on the Internet :

- What is the purpose of the site, When was the site updated? How up-to-date is the material on the site? Is it still relevant?
- Is the site part of (or related to) an official organisation (a professional body, government department or academic institute or research group)?
- Are there any copyright issues associated with the material? Will you be able to use the material without breaching copyright?
- Is there an author for the material? Is the author qualified to provide the information? Are they presenting opinions rather than facts? Are they biased?
- Is the site recognised from other sources?
- Are there other links to the site and is it reviewed anywhere?
- Is the material biased? 'Does the author have a "vested interest" in the topic' or an axe to grind?

Other sources

- Letters and memos,
- newspaper articles,
- computing magazines,
- company sales literature and
- television programmes.

Newspapers, television programmes and computing magazines may provide popular material but their depth may be somewhat limited

Tracing the information

- *Internet*
  - http://www.google.com/
  - http://www.yahoo.cm/
  - http://www.lycos.com/
  - (http://www.wikipedia.org/

- http://www.jiscmail.ac.uk/
- Intute (http://www.intute.ac.uk/sciences/)
- ISI Web of Knowledge (http://wos.mimas.ac.uk/).
- Research Navigator (http://www.researchnavigator.com/)
- ACM Association of Computing Machinery (http://www.acm.org

- **The Collection of Computer Science Bibliographies (http://liinwww.ira.uka.de/bibliography/)**
- **IEEE Computer Society (http://www.computer.org).**
- **Lecture Notes in Computer Science (www.springer.de/comp/lncs).**
- **Neuron AI directory (http://www.neuron.co.uk/).**
- http://www.hull.ac.uk/lib/infoskills/aslib.html.

Critical evaluation

- What kind of article is it – a review paper, an evaluative paper, a theory paper, a practical paper, a case study, etc.?
- What can you gain from the article – ideas, techniques, useful quotes?
- Is the author well recognised in his/her field? Is the author an authority in this area?
- What contribution is the article making? What kind of contribution is it? Can it maken a contribution to your own project? If so, how?

Critical evaluation

- How does the article fit into and support the context of your project?
- Do conclusions follow logically from the work that has been presented
- What do you feel about what has been written? Do you agree with statements that are made?
- What references does it use? Are these appropriate, relevant and up-to-date

SUMMARY

- literature survey will help to place your project within a wider context and justify its presence within a particular field (or fields) of study.
- Your literature survey consists of two main components: the literature search (supported by an ability to manage the information you gather) and the literature review (which requires a critical understanding of material that you obtain).