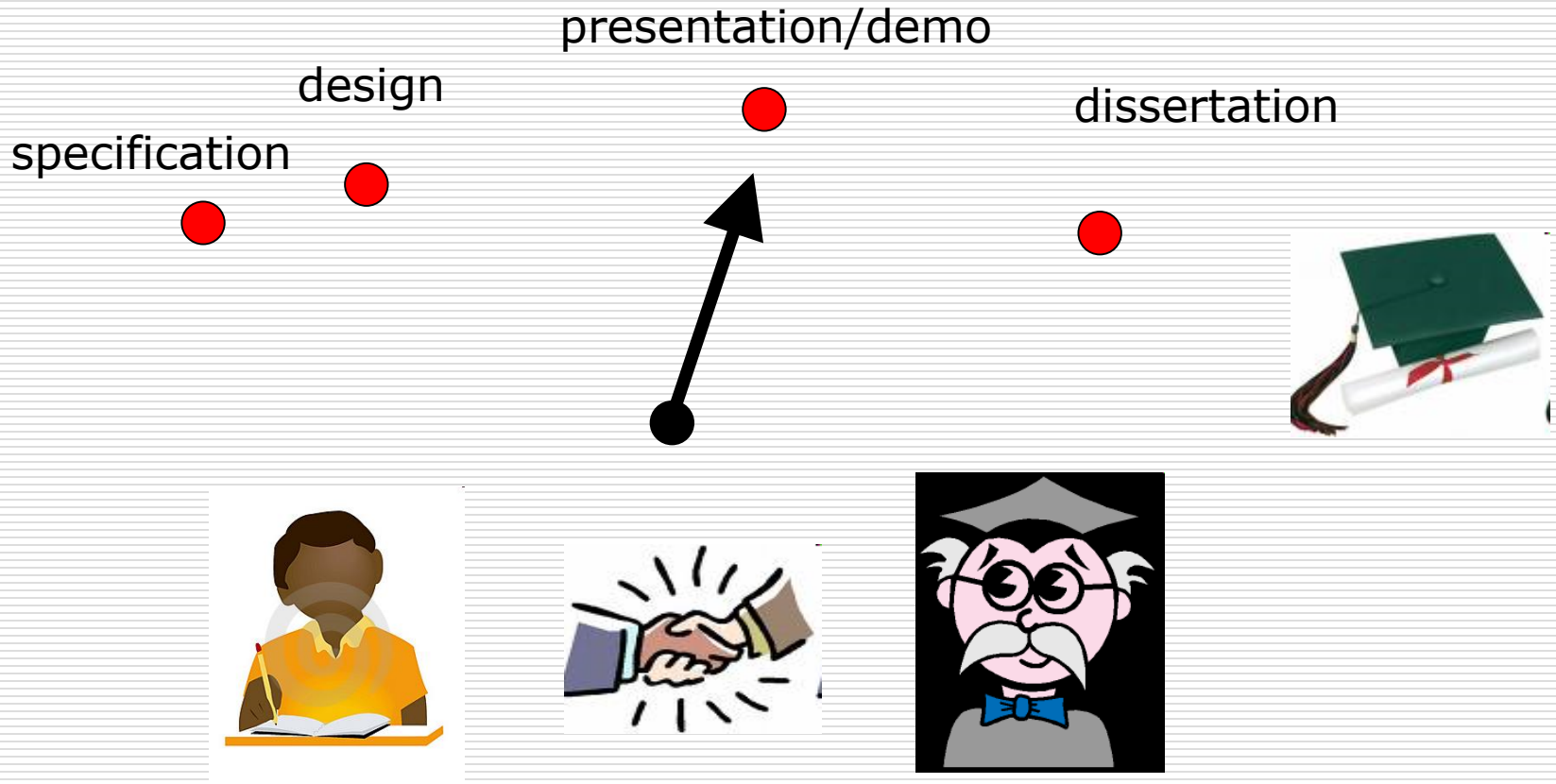


# MSc PROJECTS COMP702 - SUMMER 2020

Leszek A Gąsieniec – MSc projects coordinator

---



# MSC Project - overview

---

- ❑ COMP702 is the MSc **60 credit** project module that will:
  - ❑ run over the summer from the week after the second semester exams to (roughly) a week before the start of the next academic year.
-

# Model

---

- Each project will be managed by a team of ***two people***:
    - **First Supervisor:** is expected take the lead in supervising the student. The supervisor will propose the original project and should meet the student on a regular basis to offer guidance, support and advice.
    - **Second Supervisor:** should have some expertise in the topic area, and be able to provide back-up support and guidance for the student.
    - **Assessors:** First + Second supervisors
-

# Basic philosophy

---

- **The main aim** of an MSc dissertation project is for a student to develop and **demonstrate autonomy** in the management and development of projects in computer science, either research or application-oriented.
  - At the end of the project a student should have demonstrated the ability to **initiate, plan, manage and deliver** a complete project for a customer or research supervisor.
  - The delivery of the project will include writing support **documents**, giving interim **presentations** describing important stages of the project, and a final **dissertation** describing the project as a whole.
-

# Examples of projects

---

- The ***critical comparison*** of some complimentary recent innovations.
  - The ***extension or adaptation*** of some recent innovation so that it becomes in some sense better, e.g. faster, more accurate, requires less storage etc.
  - The ***application*** of some recent innovation to a generic application area where it has not yet been applied.
  - The ***combination*** of some recent innovations in a novel manner not previously recorded in the literature.
-

# Key characteristics

---

- ❑ **Originality:** in the application of knowledge, together with a practical application of techniques of research and enquiry.
  - ❑ **Generalization:** Even when the project has a very specific target, students should address it in a way, which will make the results potentially applicable in a broader context.
  - ❑ **Critical evaluation:** Design decisions made by students in the course of the project should be made in the context of a critical examination of alternatives, and the students should subject their results and conclusions to the same rigorous analysis.
-

# Formal objectives

---

- To give students the ***opportunity to work in a guided but independent fashion*** to explore a substantial problem in depth, making practical use of principles, techniques and methodologies acquired elsewhere in the programme.
  - To give experience of carrying out a ***large piece of individual work*** and in producing a dissertation.
  - To ***enhance communication skills***, both oral and written.
-

# Learning outcomes

---

- ❑ **Specification** of a substantial IT problem, and produce a plan to address this problem.
  - ❑ **Management of time** effectively (project plan).
  - ❑ **Search for/use of information** relevant to the project.
  - ❑ **Design of a solution** to a substantial problem.
  - ❑ **Implementation/testing** of solutions to problems.
  - ❑ **Evaluation** in a critical fashion of work they have done, and to place it in the context of related work.
  - ❑ **Preparation/delivery** of formal **presentations** and **demonstration** of developed software.
  - ❑ **Structuring/write up** of a **dissertation** describing their project.
-



# Time table

---

<b>Date</b>	<b>Activity</b>
Week of 1 June, 2020	Start (on Monday week 1)
Deadline, 3 July, 2020, Presentations, July 6-10	<u>Specification &amp; Design</u> report submission and oral presentation
Deadline, 21 Aug, 2020, Presentations, Aug 24-28	Final <u>presentation</u> + <u>software demo when appropriate</u> (by end of week 13)
Friday 18 Sept 2020 (noon)	<u>Dissertation</u> hand in (Friday of week 16)

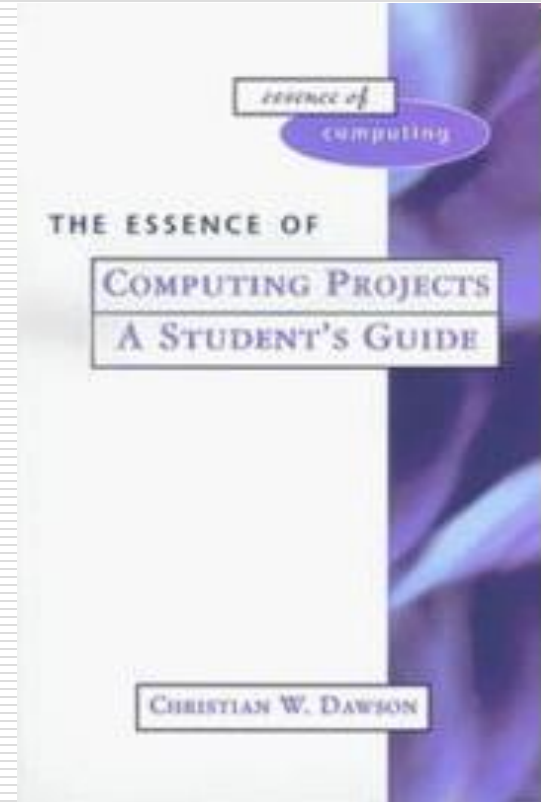
---

# Conduct of project - reading

---

## □ Reading:

- Christian W. Dawson, "Computing Projects: A Student's Guide", Prentice Hall, 2000.



# Conduct of project - writing

---

- Integral ***components***:
    - (i) study strategies,
    - (ii) writing-up your research,
    - (iii) citing and documenting your sources,
    - (iv) grammar and usage, and
    - (v) theses and dissertations.
  - Remember that you are writing a ***scientific work*** and not an extended essay so do not be afraid of using ***lists, tables, diagrams***, etc., whatever best gets your ideas across to the reader. However, try to be ***consistent in your approach*** to your project, and writing your dissertation.
-

# Conduct of project - continued

---

- ❑ Log books
- ❑ Technical support
- ❑ Project plan

<b>Weeks</b>	<b>Activity</b>
1 – 2	Background reading literature review.
3 – 5	Project specification and initial design.
5 – 12	Software implementation and testing.
12 – 14	Software experimentation and analysis of results.
14 – 16	Write up of dissertation.

---

# Assessment

---

Activity	Mode	Deliverables	# marks (%)	1 <sup>st</sup> Assessor	2 <sup>nd</sup> Assessor
<a href="#">Specification &amp; Design</a>	Report and Oral presentation	Short report (rec. at most 10 sides A4) and copy of slides, electronic submission	20	1 <sup>st</sup> supervisor	2 <sup>nd</sup> supervisor
<a href="#">Final presentation</a>	Report and Oral presentation (+software demo if applicable)	Short report (rec. at most 5 sides A4) and copy of slides, electronic submission	20	1 <sup>st</sup> supervisor	2 <sup>nd</sup> supervisor
<a href="#">Dissertation</a>	Written work	Electronic submission (including source code, if applicable)	60	1 <sup>st</sup> supervisor	2 <sup>nd</sup> supervisor

---

# Grading system

---

Grade	Classification	Percentage	Qualitative Description
A+	Good Distinction	80+	Factually almost faultless...
A	Distinction	70+	Logical; enlightening; originality of thought or approach...
B	Good Pass	60+	Logical; thorough; factually sound (no serious errors); good understanding of material ...
C	Pass	50+	Worthy effort, but undistinguished outcome. Essentially correct, but possibly missing important points or inadequate treatment.
D	Compensatable Fail	40+	Incomplete coverage of topic; evidence of poor understanding of material; Poor presentation ...
F	Fail	< 40	Serious omissions; significant errors/misconceptions; poorly directed at targets; evidence of inadequate effort.

# Specification & Design

---

- **SUMMARY OF PROPOSAL:** A statement of what the project is about, including:
    - What the problem to be addressed is, what the proposed solution is, what will be produced on the project, any major modifications to the original proposal.
  - **CONDUCT OF THE PROJECT:** This states how it is proposed the project will be carried out, including:
    - Background research: what information will be used to understand the problem and its solution
    - Data required: what data will be needed for the project and where it will be obtained
    - New skills that will be required and how these will be acquired, what is research methodology (incl. software design methods when appropriate) will be used, what software will be used (when appropriate).
-

# Specification & Design (cont.)

---

- **STATEMENT OF DELIVERABLES:** This states what will be produced in the project, including:
    - Description of anticipated documentation, description of anticipated software, description of anticipated experiments, description of methods for evaluation
  - **DESIGN:** Outline of the project design, according to the chosen methodology in the specification. Although designs will vary according to the needs of particular projects a typical design of a software implementation will comprise:
    - description of the anticipated components of the system
    - description of data structures to be used by the system;
    - algorithms to manipulate these data structures; and
    - design of the intended interface.
  - **PLAN:** Progress to date. Outline of plan for remainder of project.
-



# A word about data...

---

- ❑ The university is taking the use of human data very seriously.
  - ❑ If your project will involve the collection of personal information, then approval through the University Ethics Approval Process must take place **before** any collection/use of data begins.
  - ❑ **This is normally the responsibility of the supervisor of the project...**
  - ❑ Use of human data (that is not in the public domain) without ethics approval could constitute research misconduct.
  - ❑ Use of data collected from Twitter (following its Ts&Cs) is allowed without ethical approval (anonymize the data!)
-

# Final presentation

---

- Structure
    - The ***aims*** of the project.
    - A ***summary*** of the design.
    - A ***description of what was produced*** in the project.
    - Any interesting ***aspects of the implementation***
    - An ***evaluation*** of what has been achieved.
    - Any ***shortfall*** from the original proposal.
    - Suggestions for ***future development***.
  - Poster or
  - Software demonstration
-

# Dissertation

---

- ❑ **ABSTRACT:** A summary of the project
  - ❑ **INTRODUCTION:** This will give a brief overview of the project.
  - ❑ **BACKGROUND:** Reading and research done to acquire the necessary information and skills to carry out the project ...
  - ❑ **DESIGN:** Documentation of the design; while the organisation should be similar to the design presentation, full detail of the design is required ...
  - ❑ **REALISATION:** How the design was implemented. Changes made to the design in the course of implementation. Testing of the implementation ...
  - ❑ **EVALUATION:** A critical appreciation of the strengths and weakness of the project as carried out. This may include customer feedback.
-

# Dissertation (cont.)

---

- ❑ **LEARNING POINTS:** Skills and knowledge acquired and improved by the project, what actions were crucial to the success, things you would do differently.
  - ❑ **PROFESSIONAL ISSUES:** How your project related to the BCS Code of Conduct and Code of Good Practice.
  - ❑ **CONCLUSION:** Summary, main findings, further work.
  - ❑ **BIBLIOGRAPHY:** A properly cited list of books, articles and other materials consulted during the project and/or referred to in the dissertation.
  - ❑ **APPENDICES:** Appendices are meant to contain detailed material, required for completeness, but which are too detailed to include in the main body of the text.
-

# Plagiarism

---

- All student should be aware that they are **responsible for what they write**. One of the pillars of progress in research is that authors can benefit from each other's earlier work. Arguments made in a dissertation should be supported by facts. One way of doing this is to **refer to the existing body of work**.
  - If a student is unable to make a point more clearly than a source that they have found (a book, a paper, or a document on the web), they should **use quotations**.
  - Similar rules apply to **figures, pictures and diagrams**.
  - The University of Liverpool has written its own statement on plagiarism and collusion, see the **Code of Practice on Assessment (including Appendix L)**.
-

# Final comment

---

- ❑ If you are conducting your project using your own computing facilities make sure you ***back up you work regularly.***
  - ❑ The Department cannot be held responsible if you lose all your work as the result of, for example, your laptop being lost or stolen, or a hard disk failure.
  - ❑ ***Work done on Departmental machines*** is backed up regularly by our technical staff and is therefore ***much safer.***
-

# Any questions?

---

