Department of Computing and Networking

Software Engineering Degree Year

Project <u>Guidelines</u>

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Introduction

Project ownership and copyright belongs to the Institute. You should put no indication of copyright, assumed or otherwise, on any of your project documentation, except where you are including material that is the copyright of others. Note that, in the event of you wishing to further develop the project for commercial or personal use, the Institute may consider granting you a licence to do so.

All student projects must be accompanied by a written declaration that the project is not plagiarised and has been completed in accordance with college regulations. A standard declaration form is available.

Research Report

The research report should have the following sections:
- Abstract;
- Table of Contents;
- Introduction;
- Overview of areas, technologies or topics researched;
- For each area, technology or topic:
    - reasons for researching and perceived relevance to project;
    - what you discovered during research;
    - utility of the research and any further research it suggested;
- Summary and Conclusions;
- Detailed algorithm descriptions that you plan to implement;
- Glossary;
- Bibliography.

Functional Specification

Define the Application.
- What is the application supposed to be?
    - What the product is.
- What is the application supposed to do?
    - Usually a small number of core pieces of functionality and a larger number of less important functions;
    - List all functionality- re arrange with most important first.
- Who is going to be using this application?
    - Identify the user group(s).
- Context Diagram and Use Cases
- Metrics
    - How will you (and we) gauge if your project is successful.
- Is there a precedent for this application? (your inspiration):
    - Is it similar to something already in existence?
    - How does it differ?

Project Plan

- Introduction:
    - What are you planning for?
    - Requirements: Software &Hardware.
- Major milestones in chronological order:
    - To include but not be limited to only deliverable dates;

- o Before you fill this in, roughly plan - with final presentation date first, work back to now; think how long before this that you will have completed your final installation and testing. How long before this to you next furthest milestone etc.;
- o Any non-intuitive topics should be explained in tabular form, all topics should be included in Gantt Chart or using Microsoft Project;
- Any Exceptional requirements:
  - o e.g. meet with xxxxxxxxx;
  - o visit xxxxxx location;
  - o depends upon .... otherwise will have to....

Design Manual
- Model the Application.
- Design and Describe how the application will be used:
  - o e.g. Navigation sequence in Web based project;
  - o This may necessitate some high level design in order to convey how the application may be used to access its functionality;
  - o User interfaces should be specified loosely here (possibly screen shots of prototype user interfaces - you will not be held to using these UIs they are just to assist in explanation of your project functionality);
  - o Major architectural components and their relationship to each other should also be diagramatically (with brief explanation paragraphs) presented here e.g Database backend, web server front end with ODBC connecting them etc.;
  - o Include any element that you would feel conveys how you perceive your project will function.

Web Pages
One or two simple web (no Java, no Javascript) pages describing your project prepared in HTML, for placing on a web server. They should loaded onto the server as per instructions. Links within the pages or images should be local (no directory references, no http://). The pages should include links (in full format) to other relevant web pages, possibly by including a section of the bibliography from your Research report.

Project Presentation
You should prepare your presentation in powerpoint (or similar). It will be delivered as a short talk to your peers. It is NOT an interview, so there is no need to dress to impress! Allow time for questions at the end.

User Manual
The language used in the manual should be chosen to match the target user. The level of explanation and phraseology in a game project, for example, will not be the same as that chosen for the manual for a network testing tool. The user manual should generally not present tutorial material on the project topic, but references to such material may usefully be included. The manual should include:
- System requirements;
- Installation instructions;
- System usage, with screenshots where needed.

Project Report

- Problems encountered and how they were resolved;
- What you achieved;
- What you did not achieve;
- What you learned;
- What you would do differently if starting again;
- Report of any differences from your earlier design, and any additional research that was required;
- Module descriptions;
- Data structures including any files and their record layouts;
- Testing used to assess reliability of your software product.

Code Listings

Code should comply with the Institute Standards.

Project Software

Your project code should be delivered on CD or memory stick as appropriate. It should be auto-installing. There should be a separate directory on the disk called "Docs" which should include copies of all documentation submitted during the year, presentation (powerpoint), source code etc. If non-standard additional software (e.g. components for compilers, tool kits etc) are required to build your project, copies should be included in an appropriate directory.

All project code should be hosted on Github or equivalent cvs (see your supervisor for acceptable alternatives). You must make this repository available to your supervisor from the start of the project.

Demonstration

Some time after the submission date of the project materials you will demonstrate your project to the panel of tutors. The demonstration will normally commence with a short verbal outline of the goals and purpose of your project, as most of the panel will not be familiar with it. Part of the demonstration will normally include installation of your software on the target platform from the CD (or other media) you have submitted. By prior arrangement with your tutor you may be permitted to work with pre-installed materials. Following your demonstration, during which you will not be questioned (except for requests for demonstration of particular features, clarifications etc) you will be questioned on your project by the panel.

Project Mark Allocation

Project elements weighting is as follows:

Functional Specification	5%
Research Manual	10%
Design Manual	5%
Presentations	5%
Usability	10%
Project Report	10%
Project Quality	20%
Amount Achieved	35%