COM2027 Software Engineering Project Coursework Description
Final Audit Report

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Overview

Your Final Audit Report (FAR) will serve to demonstrate:

- Your understanding of project management,
- Your adherence to standard software development practices, including consideration of Legal, Ethical, Social and Professional issues and data privacy concerns, and
- Your ability to document software.

Your FAR is composed of 3 components, which should be **submitted as one pdf on SurreyLearn**:

1) A Project Definition Document (PDD), which you used to plan work on your project, and against which you tracked progress throughout;
2) An Audit Report (AR), in which you
   a. demonstrate your adherence to your work plan and to your project management procedures,
   b. document and justify changes to them where relevant, and
   c. document your final design and implementation in sufficient detail for ownership of the project to be handed over to a maintenance or service team;
3) A testing manual to allow the sponsor to test your project against your requirements.

Your Project Definition Document is an extension of the project plan submitted in week 6 and should be intelligible without requiring the reader to also read the Audit Report, but can make references to it where supporting evidence of claims cannot readily be made available in the Project Definition Document. (For example, where a change to the project scope is justified by technological issues discussed only in the Audit Report.)

There is no specified format or template for any of these components, as this depends on your project, and the choices you make in running it. However, the lectures and the marking criteria will give you hints as to what we expect to see (towards the 40-69 mark range), and what we would like to see (toward the 70-100 mark range). *Your understanding of project management should guide what you do and present to us, whereas your understanding of standard software engineering practices should guide how you do it and how you present it to us.*

For example, the format of your Project Schedule will critically depend on your chosen development methodology: teams that choose to follow waterfall development may find a Gantt chart most appropriate to show deadlines and progress towards them, whereas Agile-oriented teams will likely find it easier to present objectives as open issues with deadlines and demonstrate progress using burndown charts. However, recall from the lecture that an effective schedule will always contain the following critical components: tasks (all leaves in your WBS), annotated with planned, actual and forecast due dates, and with clear individual responsibility for delivery.

All page limits below are given assuming reasonable font sizes (11pt at least) and margins (standard 2cm margins). They are **maximum** sizes, and we expect them to be usefully hit only in rare cases. If you feel too constrained, discuss with your sponsor.

Component	Weighting
Project Definition Document	20%
Audit Report	50% (+10% style shared with PDD)
Tester Manual	20%

Project Definition Document

Your Project Definition Document should be submitted as a standalone .PDF file via SurreyLearn. It should be no longer than 15 pages, excluding references, and well-marked appendices (which can be used to submit supporting evidence of claims). You should not expect appendices to be read, but they may be referred to during marking to check the validity of claims and quality of evidence.

Your Project Definition Document should include at least:

- a Project Charter,
- a Team Charter (including various elements),
- a Work Plan (including various elements), and
- **a documentation of changes made to the Project Definition Document between the initial Project Plan and the submitted version.**

If your project makes claims that go beyond the expectations set out for the module, we expect to see the relevant sections of the Project Definition Document, containing or pointing to evidence commensurate to your claims. (This is particularly applicable, in the Project Definition Document, to claims of business viability, novelty, or extended engagement with stakeholders outside of the module team.)

Details of what is expected in each of these elements were discussed in the second and third sessions of the Introduction to Project Management lecture series, the slides for which are available on SurreyLearn. You may also want to refer to the Design Thinking session to recall how best to frame your project: your customer reads your report, your user uses your app. If those people are different, you will speak to them differently.

A note on the first Deliverable PDD

An early version of your PDD was submitted before the Easter Break, and feedback was provided. We expect this to be and initial draft of your final PDD. Your PDD will be marked with reference to how you responded to the feedback received from your project plan submission. Note that you now have additional space (15 pages) and as such you should not have to compromise on the level of detail here.

Detailed Assessment Criteria for the PDD

The PDD counts for 20% of your FAR mark (plus a 10% component for Style and Presentation shared across both components).
Note that the marks reflect both the quality of the final submission and (in the case where improvements were required) how your team responded to the feedback and improved the report.

PDD Marking Criteria Rubric

Range	Standards for Project Charter
[0-10[	No evidence that the group knew what to do. An extremely poor or missing document with no attempt to take account of the feedback from the project plan submission
[10-20[	An attempt was made to provide relevant information, but it is either very incomplete or interspersed with irrelevant material that drowns it. A poor document with no attempt at improving the original submission.
[20-30[	An attempt was made to provide relevant information, but it is incomplete. In particular, sponsor-set constraints and those related to the module timeline are not clearly identified. A poor document with little or no attempt at improving the original submission
[30-40[	An attempt was made to provide relevant information, but it is incomplete. In particular, the project's scope is not well delimited. There may be some attempt to improve the original submission based on the feedback provided but it is insufficient to bring the document to the standard required.
[40-50[	A PDD is included which provides some text for each of its component parts although it may be vague or incomplete in places. Some attempt has been made to improve the document based on the feedback provided but it remains lacking in detail.
[50-60[	A good attempt at the PDD, which contains all relevant sections and meets the requirements for documenting the project plan in sufficient detail. A reasonable attempt has been made to take account of the feedback provided for the Project Plan.
[60-70[	A good PDD is included, which defines a problem, and concisely justifies its importance, as well as providing a good description of the plan of work and roles of the team. There has been a real attempt to take account of the feedback provided in the project plan submission that has improved the relevant sections highlighted in the feedback.
[70-80[	A very good PDD is included, which fulfils all the criteria for the original project plan submission. In addition, the Project described goes beyond the basic requirements of the module, for example with a scope that is technically ambitious or makes room for continued development and deployment beyond the end of the module. The group has taken account of the feedback from the original submission and given the additional space has improved the PDD where required. These changes have been fully documented in the submission.
[80-90[	A very good PDD is included, which fulfils all the criteria for the original project plan submission. In addition, the Project described goes beyond the basic requirements of the module, for example with a scope that is technically ambitious or makes room for continued development and deployment beyond the end of the module. The group has carefully taken account of the feedback

	from the original submission and given the additional space has improved the PDD to a level which exceeds the original expectation and provides a good level of detail in all sections. These changes have been fully documented in the submission.
[90-100]	An excellent PDD. A feasible project Is described and planned which is exceptional. The plan for this project is documented in a high level of detail and goes well beyond the scope of what was requested for the module. The group has (if required) taken close note of the feedback provided for the project plan and has if required improved the relevant sections taking full advantage of the relaxed space requirements. These changes have been fully documented in the submission.

Audit Report

Your <mark>Audit Report</mark> should be submitted alongside your PDD via SurreyLearn either in the same file or a separate file. It should be no longer than 70 pages, excluding references, and well-marked appendices (which can be used to submit supporting evidence of claims). You should not expect appendices to be read, but they may be referred to during marking to check the validity of claims and quality of evidence. We expect 50 pages will be sufficient for most projects.

Your Audit Report (AR) is where you document the process of working together towards delivery of your project.

We will want to see some background and technology research used to justify and support decisions at all stages in the project. In particular, considerations of alternative designs, techniques, methodologies or technologies are good to document, along with considerations of legal, social, ethical and professional aspects of your project.

We will also want to see evidence that you followed your team charter, including its project management procedures, all the way through. Supporting evidence here could take the form of meeting agendas and minutes demonstrating collective decision-making, logs of peer reviews on text and code, evidence of unit and integration testing, beta testing and user acceptance reports, …

Finally, we will want to see your final product's design and implementation well-documented. This should be done with the objective of transferring ownership of the project's outputs to a distinct team in charge of deploying and maintaining it.

If this last component is fairly rigid in shape, the first two are even less amenable to templating than the PDD, and should be structured in the way that best fits your project. Potential structures include, for example "Concept, Planning, Design, Implementation, Evaluation, Delivery", or "Initial Design, Sprint 1, …, Sprint n." This short list is by no means exhaustive.

Please be concise, but clear. When in doubt, favour a synthetic style over a narrative style, and include reflection (looking back, and looking forward) whenever possible and relevant.

Detailed Marking Criteria for the Audit Report

The Audit Report counts for 50% of your FAR mark (plus a 10% component for Style and Presentation shared across both components). Each of the criteria below accounts for 10% of the total FAR.

The first class range is less detailed to give the markers freedom to recognize and reward projects that go beyond expectations in unexpected ways.

Definition and Planning Marking Criteria Rubric

Range	Standards for Definition and Planning
[0-40[	Little to no effort was made to document the process through which the project scope was initially defined, or through which work on the project was planned or amended.
[40-50[	Some justification of the project definition is given, but alternatives considered are not documented. Some justification of the Project Schedule is given, but may fail to justify some critical aspects related to the initial refinement of high-level requirements into tasks, or of modifications to the work plan as the project progressed.
[50-60[	Alternatives considered during the project definition are documented, but the factors that entered into the final decision are not clear. In particular, a critical evaluation of the various alternatives may be missing. Some justification for the Project Schedule is given, but may fail to justify the more critical effort estimates. In particular, the critical path and its effects on planning decisions are not discussed.
[60-70[	Alternatives considered during the project definition are documented, and choices clearly justified using characteristics of the problem and considered solutions. The Project Schedule and its evolution are well justified, including considerations of the effect of various alternatives on the critical path and the ability of the team to meet project constraints.
[70-100]	A clear and complete documentation of the process through which the project scope was initially defined and through which work on the project was planned or amended. This includes consideration of alternative options and justification of the choices made, including considerations of the project's constraints, of the individual team members' personal development targets and motivations, and of ethical and social aspects of relation to the project. Late revisions to the project definition or work plan inspired by concepts of Design Thinking will be rewarded once a project's documentation enters this marking range.

Design Marking Criteria Rubric

Range	Standards for Design
[0-40[	Little to no effort was made to document the process through which high-level requirements were refined into a software design.
[40-50[	Some justification for the refinement of high-level requirements into a software design is given, including some standard diagrams. The documentation would be insufficient for the project to be transferred to another team.
[50-60[	Some justification for the refinement of high-level requirements into a software design is given, including an adequate set of technical diagrams (including, for example, use case diagrams and class diagrams where appropriate). Alternative options may not be discussed extensively enough to guide future design decisions. Documentation is sufficiently detailed to transfer the project to another team.
[60-70[	The process of refining high-level requirements into a software design is well justified, including an adequate set of technical diagrams (including, for example, use case diagrams and class diagrams, where appropriate), and appropriate critical evaluation of alternatives. Due consideration is given to data privacy issues in designing the application. Documentation for individual components--and in particular for their interfaces--is sufficiently detailed that little interaction is needed between implementation teams.
[70-100]	A clear and complete documentation of the process through which the high-level requirements were refined into a software design, which makes adequate use of technical diagrams, references and original research to justify choices. Due consideration is given to data privacy, as well as ethical and social issues in designing the application. Long-term planning in designing the application (for example, increasing the robustness of core components in prevision of large numbers of users) will be rewarded once a project enters this marking range.

Implementation Marking Criteria Rubric

Range	Standards for Implementation
[0-40[	Little to no effort was made to document the process through which the software design was implemented, or through which important technology choices were made.
[40-50[	Some justification for implementation choices is given. Documentation of implementation choices is not sufficient to support transfer of owenrship for the project.
[50-60[	Some justification for implementation choices is given in sufficient details that ownership of most of the code base could be safely transferred within the team. Alternative options may not be discussed extensively enough to guide future implementation decisions.
[60-70[	The process of implementing the software components is well justified, including an adequate critical evaluation of alternatives. Due consideration is given to data privacy issues when making implementation choices.
[70-100]	A clear and thorough documentation of the implementation process, which makes adequate use of references and original research to justify choices. Due consideration is given to data privacy, as well as ethical and social issues in designing the application.

Evaluation Marking Criteria Rubric

Evaluation covers both Validation and Verification aspects.

Range	Standards for Evaluation
[0-40[	Little to no effort was made to document the process through which the software design and its implementation were evaluated during the development process, and will be evaluated upon delivery.
[40-50[	Some documentation of choices made for the evaluation of the software design and its implementation is given.
[50-60[	The choices made regarding the evaluation of the software design and its implementation are well-documented, including some consideration of alternative options.
[60-70[	The choices made regarding the evaluation of the software design and its implementation are well-documented, including a critical comparison of alternative options. Evidence that the processes were followed during the duration of the project is given.
[70-100]	A clear and thorough documentation of the evaluation process, which makes adequate use of references and original research to justify choices. Due consideration is given to data privacy, as well as ethical and social issues in evaluating the software.

Reflection Marking Criteria

Range	Standards for Reflection
[0-40[	Little to no effort was made to reflect on the validity of choices made, or the process of defining, executing and delivering the project.
[40-50[	Some reflective remarks are included, which consider—a posteriori—the validity of choices made.
[50-60[	Some reflective remarks are included, which consider—a posteriori—the validity of choices made and their effect on the execution of the project.
[60-70[	Some reflective remarks are included, which consider—a posteriori—the validity of choices made and their effect on the execution of the project. In addition, some leads for future improvement are identified.
[70-100]	Very good reflective remarks are included, which consider—a posteriori—the validity of choices made and their effect on the execution of the project and the ability of the team to keep working on it in the future. The reflection may be used as a guide to discuss future directions for the project, the project team, and its members.

Style and Presentation Rubric

This mark takes into account both parts (PDD and Audit Report) of your Final Audit Report, and accounts for 10% of its total. Note in particular that the mark is not split, so putting effort into polishing the style of one part without ensuring the other is equally polished may be wasted, as the overall document may still fail to meet the expected standard.

Range	Standards for Style and Presentation
[0-40[	Reading and understanding are hindered by the editorial quality of the document. No effort was made to proof-read the document or review it to guarantee consistency between sections. Referencing practices are borderline academic misconduct.
[40-50[	The document is of acceptable editorial quality overall, but some sections may be less polished. The organisation of the document may not be entirely clear or logical during a first reading.
[50-60[	The document is of acceptable editorial quality throughout. The organisation of the document is mostly good, but some more effort could have been put into articulating transitions between sections. In particular, a clear explanation of the way in which the project audit is organised may be missing.
[60-70[	The document is of very good editorial quality throughout, with diagrams well integrated into the document and given appropriate space. The document is well organised and well-structured, and follows a logical structure that is clear from the start. The report makes adequate use of references to support arguments.
[70-100]	The document is of excellent editorial quality throughout, with a clear and distinctive style being used. The document is very well organised and very well structure, and follows a logical structure that is clear from the start. The report makes excellent use of cross-references, external references and appendices to support arguments without overwhelming the reader with content or repeating content.

Tester Manual

You will also be expected to submit a Tester Manual, which will be used during the testing of your application. This component will count for 20% of your FAR mark. In particular, we understand that what you are delivering is a prototype, which may not be as polished as an application delivered through the Android Play Store. However, we expect you to be aware of the shortcuts you have taken, and to be able to inform your testers of what they need to do in order to run your application without making it crash. In particular, the Tester Manual could be used to specify a suite of test scenarios.

Please provide a range of tests that demonstrate whether the application's requirements are fully and faithfully implemented.

For each of the requirements, describe a test scenario (assumptions, actions, expected results) and the result of executing it, such that the tester can state whether they consider the test passed (and the requirement implemented) Fully (F), Partially (P) or Not at all (N).

Your tests are expected to be closely mapped to the functional requirements of your application. There should also be closely linked to your project description such that the high level functionality described in your initial brief is fully tested and evaluation criteria can be shown to be met.

Testing Manual Rubric

This mark takes into account both the quality of the tests provided and the manner in which your application responds to the tests. To achieve the very highest mark categories for this section, you must

- provide a range of tests that cover the require range of functionality for your project,
- your project must be of a high level of technical challenge such that it goes beyond the minimum specification, and
- your application must be shown through the tests to meet the requirements set out in the Project Definition Document.

Range	Tester Manual
[0-40[	The test plan is vague or incomplete. The project is below or just meets the minimum specifications for the project. The project may not behave as described when tested
[40-50[	The test plan covers a reasonable range of the proposed functionality but does not fully cover all functionality. The project meets the minimum specification for the module. The application mainly passes the tests described but may not pass all tests.
[50-60[	The test plan covers a good range of the proposed functionality but may not fully cover all functionality. The project meets the minimum specification for the module and may go slightly beyond spec in some places. The application mainly passes the tests described but may not pass all tests.
[60-70[	The test plan contains a range of tests to cover all of the required functionality in detail taking account of both success and failure cases. The application meets the minimum requirements for the module and the tests demonstrate the application fulfils these requirements..
[70-100]	The test plan fully covers the required range of functionality for the project described in the PDD providing tests that operations that should succeed and should fail. It tests a range of functionality that goes beyond spec with higher mark categories being reserved for more technical functionality that goes well beyond what was requested in the module. The tests demonstrate that the application achieves the goals set out in the project plan..