BSCCS FINAL-YEAR PROJECT

STUDENT GUIDELINES: PART 2 (TIMETABLE AND ASSESSMENT)
DEPARTMENT OF COMPUTER SCIENCE, CITY UNIVERSITY OF HONG KONG

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1 INTRODUCTION

In the final year of the BSc(H) in Computer Science (BSCCS) you have to undertake a project. The purpose of the project is to allow you to demonstrate your knowledge of, and capability in, the subjects taught in the programme. At the same time the project requires you to demonstrate your problem solving skills, skills of time and resource management and of independent thinking; and an ability to communicate your interesting and/or novel ideas and solutions to others. Each of those items will be dealt with in more detail in later sections.

The project is an important part of the BSCCS programme. It is compulsory for full-time students and optional for part-time students. **Producing programs which you can show are working correctly constitutes an essential part of the project**, without which it may be difficult to achieve a pass. These programs will normally show that the solution which has been designed by you will actually solve the problem which has been posed by you. However, the reverse is also true, in that working programs, which effectively show that the problem cannot be solved by your proposed method, are acceptable (and are thus valid for all grades of pass).

2 PROJECT TIMETABLE

2.1 OUTLINE OF ACTIVITIES TO BE COMPLETED

The following table shows the timeline for assessment activities to be completed during the FYP.

Semester	Due Date	Activity	Expected Progress
Preceding Semester B	Week 5 - 13	Project Proposal	Generating idea, finding supervisor.
Semester A	Week 4	Submission of Project Plan	Consolidating idea, initial literature review, feasibility study.
	Week 11	Submission of Interim Report I	Detailed literature review, preliminary design of the proposed system.
Semester B	Week 4	Submission of Interim Report II	System implementation, preliminary testing and analysis.
	Week 11	Submission of Final Report	Complete system implementation, complete testing and analysis.
	Week 12	Oral presentation & Project demonstration	Demonstration of outcome and deliverables.

Exact calendar dates and detailed procedures for report submissions and presentations will be announced by the Project Coordinator in due course.

2.2 DEFERRAL OF DEADLINE DATES

If you have encountered personal problems that seriously affect your ability to achieve normal progress in your project work, you should **immediately discuss your situation with your Supervisor**. In addition, you might also seek advice from your Academic Advisor.

When the problems persist and you foresee no reasonable chance of meeting the deadline date, you may apply for a deferral, **based on valid reason(s)**. In this case, you need to:

- Make available supporting documents (e.g. letters from employers, medical certificates, etc).
- Obtain written endorsement from your Supervisor.
- Write to the Project Coordinator to apply for a deferral, with the supporting documents and your Supervisor's endorsement.
- The Project Coordinator will make the final decision to approve the deferral or not.

Applications for deferrals must be made **more than two weeks before the relevant deadline date**. *Applications made less than two weeks before the deadline will be ignored.*

In general, the following are *not valid reasons* for deferring a deadline:

- Accidently deleted or lost files (Students should regularly backup their work).
- System software failure (Students should regularly backup their system).
- Equipment failure, unless the equipment is difficult to replace.
- Lack of access to system/equipment (FYP is a year-long course and there is ample time to arrange access to equipment either physically or remotely).
- Didn't know about the deadline.
- High workload because of other coursework.

Make sure that you keep backup copies of all your work to prevent data loss. Also plan your schedule accordingly and leave enough time for your FYP.

2.3   SPECIAL ARRANGEMENT FOR BSCU2

For students who take FYP and placement in the same year, request for extension of project submission must be filed in the Week 12 of Semester A (placement year). It is important to note that the extension will result in delay of graduation date to Oct of same academic year. The revised project timetable is as follows:

Semester	Week	Activity
Semester A	Week 4	Submission of Project Plan
	Week 11	Submission of Interim Report I
Summer	*Week 2*	Submission of Interim Report II
	Week 6	Submission of Final Report
	Week 7	Oral presentations & Project demonstration

Note: The special arrangement is only applied to BSC3 and BSC2 students. For other students who also take FYP and placement in the same year, special approval must be granted from FYP Coordinator and Academic Advisor in the week-12 of Semester A for this arrangement.

2.4   SPECIAL ARRANGEMENT FOR OVERSEAS EXCHANGE

Students who take FYP and also go on overseas exchange in the same year may defer their FYP up to 2 months subject to the following conditions:

1) Provide justification and support by the supervisor.
2) Student is taking a minimum of **12 credit units** at the overseas institution.
3) Student obtained a minimum of **B-** on:
   a. Interim Report I, for students on Semester A exchange.
   b. Interim Report II, for students on Semester B exchange.

If the above conditions are met, a student on Semester A exchange can defer the deadline for Interim Report II and Final Report/Demo, and a student on Semester B exchange can defer the deadline for the Final Report/Demo. For these cases, the Final Presentations will be scheduled in July. Students can request for deferral after the announcement of the result of the relevant Interim Report. A summary of the deferred schedule for exchange students is below:

Exchange in Semester A	Exchange in Semester B	Activity
Semester A, Week 4	Semester A, Week 4	Submission of Project Plan
Semester A, Week 11	Semester A, Week 11	Submission of Interim Report I
Semester B, Week 12	Semester B Week 4	Submission of Interim Report II
Summer, Week 1	*Summer, Week 1*	Submission of Final Report
Summer, Week 7	*Summer, Week 7*	Oral presentations & Project demonstration

Normally exchange students are not allowed to register CityU courses during the exchange period and thus students will be registered in CS4514 in the following Summer Term (i.e., Sem A + Summer OR Sem B + Summer) so that these students could be graded in Summer Term. Note that the extension will result in delay of graduation date to Oct of next academic year.

No extension: In case an exchange student would like to complete the FYP by the end of Semester B (i.e. not extend to the Summer), they have to make a request to the department for special approval. The department will then register the student for CS4514 in Sem A/B as appropriate, and the student's FYP will be graded in Sem B. Students need to email two CS staff, csbsproj@cityu.edu.hk (for handling FYP deadlines) and zoechan@cityu.edu.hk (for handling the special request).

Sem A Exchange and EN4262: FYP students are required to take EN4262 in Sem A with their FYP. However, students who go on exchange in Sem A will not be able to take EN4262 during their FYP. In this case, students may opt to take EN4262 one year earlier (prior Sem A) if they have a substantial ongoing project, e.g., Research Mentorship Scheme (RMS) or Guided Study (CS4552), with special approval from CS. If you would like to take EN4262 prior to FYP, please contact zoechan@cityu.edu.hk.

3 ASSESSMENT

3.1 MARKING SCHEME

The marking scheme for projects is in the below table. Details for each item can be found in the following sections.

Project Marking Scheme

Project Plan	5%
Interim Report I	5%
Interim Report II	5%
Project Management	5%
Technical Merit	40%
Final Report	25%
Presentation	10%
Demonstration	5%

Important Note: The FYP is a demonstration of the student's ability to design, implement, and test a system to solve a problem. Implementation is essential for FYP. *Hence, an FYP without an implementation (working source code) will receive a failing grade.*

For group projects, group members are mainly assessed individually according to the above marking scheme. Each group member must submit their own reports detailing their own contributions to the project. For group projects, there are 10% marks that are assessed as a group: 1) 5% marks are for Group Demonstration, showing the full working system, as well as each student's component; 2) 5% of the technical marks will assess the full system (design integration, implementation, and system testing). The group project marking scheme is summarized as follows:

Group Project Marking Scheme

Project Plan (Individual)	5%
Interim Report I (Individual)	5%
Interim Report II (Individual)	5%
Project Management (Individual)	5%
Technical Merit (Individual)	35%
Technical Merit (Group)	5%
Final Report (Individual)	25%
Presentation (Individual)	10%
Group Demonstration (Group)	5%

3.2   THE EXAMINING BODY

The projects will be examined by the supervisor, two independent internal examiners (the First and Second Readers) and two presentation assessors. The First Reader will be familiar with the domain of the project. The

Second Reader need not be. The presentation assessors must not be the project supervisor. The roles of the Supervisor and these examiners/assessors are outlined below. **Group projects**: to maintain consistency of grading, the same first reader and same second reader will be assigned to assess all students in the same group project.

3.2.1 THE SUPERVISOR

The supervisor guides the student during the duration of the project and monitors the development part of it.

The Supervisor is the sole assessor of the student's Project Plan, Interim Reports and Project Management, and also assesses the Technical Merit, Final Report and Demonstration of the project in a similar way to that outlined below for the First Reader.

3.2.2 THE FIRST READER

The First Reader allocates marks for the Technical Merit, Final Report and Demonstration. They are expected to have reasonable knowledge of the general area of the project's topic. They assesses the extent to which the student's performance complies with, or surpasses, the stated objectives.

3.2.3 THE SECOND READER

Second Readers act as moderators of the assessment results presented by the Supervisors and First Readers. They might choose to attend selected presentations or demonstrations. Their recommended final marks are decisive unless there are extenuating circumstances made available to the Project Committee to rule otherwise.

3.2.4 THE PRESENTATION ASSESSORS

The 1st and 2nd presentation assessors will assess the student's presentation performance based on such factors as organization, preparation, effectiveness in delivering the content, style, pacing, body language and Q&A performance.

3.2.5 THE PROJECT COORDINATOR

After the project work has been assessed, the Project Coordinator receives the recommended marks from the Second Readers. If there is a lack of agreement among the Supervisor and Readers, the Project Coordinator refers the project to the Project Committee for a final decision.

4 PROJECT PLAN

Once your project has been accepted and you have been allocated a supervisor, your next task will be to draw up your project plan. The purpose of this plan is to demonstrate a structured and organized approach to your project. What is sought is evidence that the project has been sufficiently well planned to give confidence that your objectives will probably be attained within the time scale which is available.

A clear understanding of the problem and its sub-problems will be essential before you can plan your work efficiently. This understanding will, naturally, be an improvement on the outline which you gave in your initial proposal, as it will have been refined by the reading and other learning which you have achieved since its

acceptance. During the project planning phase, you should therefore consult the relevant literature and discuss with the supervisor in greater detail the nature of the problem which you intend to solve.

The project plan must be submitted online to FYPMS. Your supervisor will give feedback and recommendation for changes. You should revise the project plan according to the suggestion from supervisor.

The project plan should include the following items:

- *Motivation & background information*
    - What problem is being addressed, and why is it important?
    - What are previous approaches? What areas need to be improved?
- *Problem statement, project objectives & scope*
    - What is the problem the project is aiming to address?
    - What are the specific goals of the project?
    - What is the scope of the project? What are the assumptions or constraints? What cases will not be considered?
- *Major technical components*
    - What are the major technical components required for the project?
    - Give an overview of the system to be implemented.
    - Give a short description of each component and how it will function.
- *Expected results & deliverables*
    - How will you test the implemented system? What are the expected results?
    - What are the final deliverables? This may depend on the type of project, e.g., website, mobile app, a new algorithm, a new theory, etc.
- *Project schedule*
    - What is the project timeline? What are the milestones?
    - Include a Gantt chart.

For group projects: each student must write and submit their own project plan. The project plan should mainly focus on the student's own work in the group project. If part of the project plan contains work to be done by other group members, it should be explicitly stated in the text.

5   PROJECT MANAGEMENT

5.1   GENERAL CONCEPTS

Your progress against your plan will be monitored by your Supervisor and coordinated by the Project Coordinator. You are therefore required to make decisions about how much time you need to spend on your project in relation to:

- The workload in the project itself, and
- The workload in other courses you are taking simultaneously.

You are expected to report to your Supervisor. Meetings should be conducted on a regular basis. The frequency of those meetings is expected to be higher at the beginning and towards the end of the project. It is your responsibility to contact your Supervisor and arrange the meetings.

At each of your sessions with your Supervisor you will report your progress, explain any difficulties you are having, and discuss the ways in which you can achieve progress by the next meeting.

Do not expect your Supervisor to tell you what you should be doing next, as one criterion that will be taken into account in the final assessment of your work is the degree to which you can show your own initiative in arriving at the solutions to problems in implementing the tasks identified in the project plan. As often as possible, come to the meetings not only with progress reports and current problems to be solved, but also with several alternative solutions for each of those problems so that your Supervisor can guide you in your choice between them.

5.2   MONTHLY LOG

You are required to submit a monthly log at the end of each month via the FYPMS. The purpose is to keep a systematic record of your progress throughout the two semesters. Thus, it should be a brief description of your project activities during the past month. It can be in point form and should normally contain no more than 200 words.

Timely submission of monthly log is an important aspect that indicates your satisfactory progress in that month. Failure to do so will seriously affect your mark on "project management".

6   INTERIM REPORT I

It is expected that this report will document the background studies in details, including constraints and main alternatives of the problem, and the proposed solution and how it differs from the existing approaches. The report should include detailed descriptions about the proposed solution, and how it addresses the various constraints of the problem. Your supervisor's feedback about the project plan should be addressed in the interim report. The following items are expected for Interim Report I:

- *Introduction*
    - o Contains a clear statement of the aims and objectives of your project:
    - o Problem definition & scope
    - o Problem significance & motivation
- *Literature Review*
    - o Major alternatives of the problem, with appropriate references.
    - o Status and limitations of the current alternatives.
    - o Put your project in the context of the current state of the art in your subject domain, and justify and explain the importance of your project work.
- *Preliminary design, solution, and system*
    - o A thorough description of the preliminary design of the proposed solution.
    - o It should include detailed descriptions of all system components and algorithms, and how they interact with each other.
    - o As appropriate, include system diagrams, use case diagrams, etc.
    - o Also include how the proposed solution will be tested: the testing procedures, experiment setup and design.
- *Plan and schedule for implementation and testing*
    - o Include details about how the solution will be implemented.
    - o Include a Gantt chart showing the implementation and testing timeline.
- *Monthly logs* must be attached

For group projects: each student must write and submit their own Interim Report I. The Interim Report I should mainly focus on the student's own work in the group project. If part of the report contains work performed by other group members, it should be explicitly stated in the text (e.g., in the Section titles).

7   INTERIM REPORT II

It is expected that this report will be a substantial document that presents the design, methodology and implementation of your work. In addition, the report should contain revisions to the Introduction, Literature Review, and Proposed Design according to your supervisor's feedback for Interim Report I. The following items are expected for Interim Report II:

- *A final title & abstract for the project*
- *Summary of revisions and additions since Interim Report I*
    - Summarize what revisions you have made to address your supervisor's feedback.
    - Summarize what additions have been made.
- *Introduction*
    - See description for Interim Report I.
- *Literature review*
    - See description for Interim Report I.
- *Proposed design, solution, system*
    - See description for Interim Report I.
- *Detailed methodology and implementation*
    - Details about the implementation, including: UML diagrams, database diagrams/schemas, algorithm listing.
    - Details about the testing procedure, including: test cases, experiment design and setup.
    - Details about any problems that arose and non-standard methodology required to solve them.
- *Preliminary result and future improvement*
    - Preliminary testing results.
    - Parts of the system identified for further improvement.
- *Monthly logs* must be attached

For group projects: each student must write and submit their own Interim Report II. The Interim Report II should mainly focus on the student's own work in the group project. If part of the report contains work performed by other group members, it should be explicitly stated in the text (e.g., in the Section titles).

8   DEMONSTRATION

You are required to demonstrate a working system to your supervisor and 1st reader, showing various features and functionalities of your system. You are also required to submit a demo of your software using one of the suggested screen capture and video editing tool. More details can be found in the "Student Guidelines: Part 3 (Final Report and Demo)".

9   FINAL REPORT

More details can be found in the "Student Guidelines: Part 3 (Final Report and Demo)".

All students must produce a Final Report according to the guidelines given. It is expected that the last month of the project will be mainly concerned with writing and correcting this report, and thus that **all programming will have been completed before the final drafts of the report are attempted**.

These guidelines are intended to help you prepare your Final Report in a logical and professional manner. **The format given in the guidelines must be adhered to**, although the content and quantity of information in each section will vary according to the project undertaken.

All final reports on related/joint projects will be individual reports unless a joint submission has been approved by the Project Committee at the time of the project proposal. This means that the students working on such projects must not duplicate any part of the reports of their colleagues.

You must remember that your written report is the only part of your project work which can be seen by anyone outside CityU, and that you could use it in the future as a document which shows your achievement. It may therefore be useful to put a lot of effort into your report.

The text of your report should:

- Present material concisely and clearly;
- Show your understanding of the terminology used;
- Have references to the literature on the subject;
- Show your understanding of the problem you have solved;
- Clearly show the major decisions in how you created your solution, and explain the rationale for them.

It is a good practice to have a documented program listing ready, should it be requested by your Supervisor.

You must take into account that not every future reader of your report will have the same background knowledge of the subject area of your project as you have, and therefore they will appreciate clear explanations of what you have done even though it may appear obvious to you and your Supervisor who are both very familiar with the context of your work. Diagrams and concrete examples are always very helpful to the general reader.

Note that particular attention will be paid by your Supervisor and other Readers to any attempt at plagiarism. All supervisors have been requested to:

- Alert students who copy directly from their sources without a proper reference to the University regulations governing plagiarism;
- Ask those students to rewrite their reports before the official submission date, and
- Report those who have failed to comply to the College Academic Conduct Committee for disciplinary action.

For group projects: each student must write and submit their own Final Report. The Final Report should mainly focus on the student's own work in the group project. If part of the report contains work performed by other group members, it should be explicitly stated in the text (e.g., in the Section headers). In particular, sections that are **not** the student's work should be highlighted.

10 PRESENTATION

The purpose of the presentation is to provide a summary of your work and to highlight and explain to the audience **the interesting and/or novel aspects** of your solution. It should not be a software demonstration. Your presentation should have a clear structure and contain the following contents:

- *Introduction & Background:*
    - Motivation and problem significance.
    - Problem statement, objectives, problem scope.

- o Major alternative solutions and their limitations.
  - o Relationship of the project in the context of the previous works, and how the project addresses those limitations.
- *System Design & Methodology:*
  - o The major components of the system design /methodology, their functions, and their interactions.
  - o Highlight the novel aspects or unique solutions of the system design / methodology.
- *Evaluation and Results:*
  - o The project result and outcomes.
  - o Evaluation of the performance via testing, experiments, or user studies (as appropriate)
- *Reflection and Future Work (optional):*
  - o What part of the system design did not work as expected?
  - o How could the system design be improved?
- *Conclusion*
  - o A summary the project and important outcomes / results.

The Language to be used in presentations is English.

The scheduled time for each presentation session is 20 minutes. **It is important to control your timing carefully.** Normally, your presentation should take around 15 minutes, so that there will be time (about 5 minutes) for questions and answers at the end of the session. You should discuss the content of the presentation with your Supervisor.

Your presentation will normally be attended by two members of staff - the 1st and 2nd presentation assessors, and possibly other interested staff and students. You will be asked questions to clarify points made in the presentation and to defend, if necessary, steps taken to solve the problem. Note that your presentation is normally the only way for the presentation assessors to know about your project.

In assessing your performance the following aspects will be given attention by the assessors:

- You should be well-prepared for the presentation. It is often helpful to have a rehearsal with your friends before the real presentation.
  - o You should *not* just read notecards during your presentation, since this shows a lack of confidence and preparation.
- You should be CLEAR, CONCISE, CORRECT and COMPLETE with respect to the delivery of the technical content of your project.
- You should be prepared to handle questions from the audience without losing the track of where you are in your presentation - you may defer questions until after the end of your presentation if you choose. However, it should be noted that not giving enough time for questions may mean that the assessor might miss the opportunity to clear up any important points of misunderstanding.

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