

FINAL YEAR GRADUATION PROJECT HANDBOOK

This document outlines the contents of Graduation Project (GP) handbook, which is intended to be used by students and faculty members in the college of Computer and Information Systems of Umm Al Qura University, Makkah Al Mukarramah, Kingdom of Saudi Arabia. It provides a framework for use in undergraduate computer science, computer engineering and information systems projects.



College of Computer and Information Systems
Umm Al-Qura University
Makkah, Saudi Arabia

Acknowledgments

This handbook is the result of an effort initiated to define the policy and improve the quality of Graduation Project (GP) course at Umm Al-Qura University in 2011. The intention of this handbook is to develop a standardized framework for undergraduate CIS students. It serves as guideline to the expected format and content of the GP deliverables for students and also provides evaluation rubrics for supervisors and examiners.

Special thanks go to Dr. Saleh Mohammed Saleh Basalamah, the Dean of the College of Computer and Information Systems, who initiated this effort. This handbook is compiled by the effort of the GP committee consisting of Dr. Faisal R. Alosaimi, Dr. Mohammad Obaidallah Abdulgader Al-Turkistany, Dr. Majid M. Algethami, Dr. Kadry Ibrahim Mohammed Montasser and Dr. Mohamed Abdur Rahman. A special thanks goes to Dr. Ahmed J. Kattan, Head of the Computer Science Department, and Dr. Mohammad M. Ansari who supported throughout the compilation process. I also thank Dr. Khaled Nasser ElSayed, Dr Elham Hassanain, the Vice Dean of College of Computer and Information Systems, Dr. Shaleeza Sohail for their valuable comments. I want to thank Mr. Ehsan Ahmad of Air University for sharing his ideas of undergraduate final year project handbook development. Finally, I would like to acknowledge the feedback and suggestion of our colleagues of Computer Science Department throughout the development of this handbook.

Document History

- July 22, 2011, Version 0.1: First draft of the handbook is compiled by Dr. Mohamed Abdur Rahman.
- September 17, 2011, Version 0.2: The second draft of the handbook was compiled by Dr. Mohamed Abdur Rahman based on the comments of Dr. M. Ansari.
- September 27, 2011, Version 0.3: The third draft of the handbook was compiled by Dr. Mohamed Abdur Rahman based on the comments of Dr. Khaled Nasser ElSayed.
- September 29, 2011, Version 0.4: Project resource request form has been added by Dr. Mohamed Abdur Rahman in Appendix A based on the recommendation of Dr. Elham Hassanain.
- October 04, 2011, Version 0.5: Recommendations from Dr. Shaleeza Sohail has been accommodated.
- November 12, 2011, Version 0.6: Recommendations received during the GP handbook presentation meeting have been adopted and edited by Dr. Mohamed Abdur Rahman.
- December 24, 2011, Version 0.7: Recommendations received during the second and third meeting of GP committee provided by Dr. Faisal R. Alosaimi, Dr. Majid M. Algethami, and Dr. Kadry Ibrahim Mohammed Montasser and edited by Dr. Mohamed Abdur Rahman.
- January 1, 2012, Version 0.8: Recommendations received during the fourth meeting of GP committee provided by Faisal R. Alosaimi and Dr. Mohamed Abdur Rahman.

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1. Glossary

GP:	Graduation Project.
CS:	Computer Science department
CE:	Computer Engineering department
IS:	Information Systems department
CIS:	College of Computer and Information Systems
STGP:	The College level Summer Training and Graduation Project administration.
Supervisory Committee:	Committee (a subset of STGP) responsible for overseeing the GP development and maintaining this handbook. It should include CS, CE, and IS faculty members.
Faculty:	Permanent faculty member with a PhD degree.
Supervisor:	A fulltime faculty member in the College of Computer and Information Systems responsible for the supervision of a group of GP .
External Supervisor:	In case of an industrial project, a person assigned by the external organization as a supervisor.
Examiner:	A professor or an expert of the relevant area chosen from respective department, other departments of the College or outside the Umm Al Qura University.
Coordinator:	A faculty member appointed by each respective department to coordinate the GP tasks, and prepare GP ABET course files.
Student:	A student registered for GP in Computer Science/Computer Engineering/Information Systems department at Umm Al Qura University, KSA.
Group/Team:	A group of students formed as a team to work on the GP .

2. Graduation Project Course Objectives

Graduation Project (GP) is an important part of every engineering and computer science discipline at undergraduate level. The main purpose of these projects is to encourage students to apply the knowledge acquired during their studies. Students are also expected to show how proficient they are in solving real world problems with certain constraints for the outcome-based evaluation suggested by ABET and ACM/IEEE Computing Curricula 2001 [1]. State of the art research shows that undergraduate students' projects have the potential to nurture the nascent minds of students toward the advanced knowledge of industry and research domain, in addition to fulfillment their academic needs. In order to emanate the most out of students and their supervisors, a GP need to follow several standards.

Many students deem the GP course very different from normal lecture-based courses because it demands independent objective formulation, activity planning and time management. Hence, a structured template and lifecycle for GP is essential for this course [2]. It can help students to the standards necessary to be followed to obtain a high quality GP course [3]. This handbook is written to serve the same purpose for undergraduate students, enrolled in a GP course at Umm Al Qura University.

A GP course at Umm Al Qura University consists of a number of activities for producing world class outcomes called "GP Deliverables". This handbook contains a minimal document set (GP Deliverables and assessment rubrics) and the content of each document, based on timeline, look and feel as well as the structure of some standards [4] [5] [6] [7] [8] [9] [10].

3. Collection of Best Practices

This handbook is a collection of the best practices adopted by some well known national and international universities/institutes. Some of the universities/institutes are as follows:

3.1 National Universities/Institutes:

- King Saud University – Riyadh

3.2 International Universities/Institutes:

- University of Regina – Canada
- University of York – UK
- University of Queensland – Australia
- Air University – Pakistan
- ACM Computing Curriculum
- University of Connecticut, USA

4. Overview of GP Process

The GP is by default spread over the last two semesters (e.g. 7th and 8th for 4 year curriculum or 9th and 10th for 5 year curriculum), called semester 1 and semester 2 (two-semester plan). In special circumstances and with the approval of the respective department, GP can be carried out in one semester (one-semester plan). Semester 1 and Semester 2 will be marked separately based on the work progress shown, final presentation done, and deliverables submitted by the students in each semester. Prior to Semester 1, students are encouraged to communicate with prospective supervisors of their respective department to complete a project proposal. However, the actual registration of the GP course will formally start at the onset of Semester 1. By the end of the Semester 1, the students have to complete the project proposal, project management plan, project requirement specification, and do a presentation, which shall be marked and graded. For the next semester, grade is awarded at the end of the Semester 2 after the demonstration and presentation of the project and submission of the project report. Following are some important facts in the GP process.

4.1 Assigning Students to Supervisors and Projects

- A supervisor must be a full time faculty member in the College of Computer and Information Systems and may be assisted by an external supervisor in case of an industrial project.
- In the semester prior to starting the GP, supervisors will be encouraged to submit their project ideas to the GP Coordinator, which will be published to respective departmental website and similar publishing areas. Students can also contact with their earlier chosen supervisor and submit their own ideas.
- At the beginning of Semester 1 of the project, an orientation session will be conducted to educate the prospective final year students, where this GP handbook will be presented and explained.
- The students formally register for the GP course in the 1st week of Semester 1. They can start formally by submitting the Final Year Project Start Form (see Appendix A) to the GP Coordinator, throughout the 2nd weeks.
- Students have to form a group or team consisting of 4 or 5 students, depending on the total number of students and the availability of the faculty staff.
- The GP Coordinator, in coordination with each supervisor, is responsible to prepare a list of the proposed projects and supervisors.

4.2 Project Supervision and Deliverables

- After the first startup meeting in the 2nd or 3rd week, the students have to write a formal project proposal (see Appendix A) with the guidance of its supervisor.
- The students are required to submit a finalized project proposal to the GP Coordinator for registration no later than the 4th week of the Semester 1.
- The groups continue submitting project deliverables to the supervisors (see Section 5 for detail on project deliverables). It is expected that by the end of the semester 1 each group should complete project proposal, project management plan, project requirement specification, and prepare either an oral or poster presentation.
- To keep track on weekly student-supervisor meetings and to monitor student progress, the students are required to fill a Regular Supervision Record Form (see Appendix A) that contains the meeting minutes and submit it to the respective supervisor after the meeting to ensure that it is accurate. Finally, copies of the meeting minutes will be stored in the GP course file.
- Each group will submit a report (project details, design, modeling, execution plan...) to their supervisor by 15th week of Semester 1.
- Semester 1 project evaluation and marking of final grade of the Semester 1 is held on the Saturday of the 18th week of the semester 1. Each group delivers a presentation detailing the work done in Semester 1 and early demonstration of the work, if any, in front of the supervisory committee as per schedule announced by GP Coordinator. The final grade of Semester 1 will be marked by the supervisory committee in consultation with the supervisor.
- The form of presentation in the Semester 1 is either through an oral presentation using Microsoft PowerPoint slides or through a poster. The duration of each oral presentation is total 20 minutes followed by a 10 minute question and answer session. Should the students choose to go for the Poster Competition, the poster size should be 22.5" x 34.5". The posters are placed on an open display and are reviewed and graded by the supervisory committee. Finally, the supervisory committee awards first, second and third positions.
- According to the evaluation done and suggestions received from the committee, project work should be adapted, in consultation with the supervisor, at the start of Semester 2.
- Each group submits the Final GP Report (project details, design, modeling, execution plan, implementation...) by week 14 of Semester 2.

4.3 Project Evaluation

- Each respective department should form an evaluation committee.
- Examiners and supervisory committee are invited to evaluate students' projects. The GP Coordinator is responsible for scheduling final project presentation, which is a public event where students of the last semester before GP should also be encouraged to attend the event.
- Evaluation should be carried out according to the rubrics provided in Appendix A.5 and each project should be marked at least by three members of the evaluation committee.
- Plagiarism should be punished by scaling down students' marks by dissimilarity scores obtained from the online integrity checker www.turnitin.com.

4.4 Miscellaneous Notes

- The GP coordinator is responsible for providing soft copies of the final report (in pdf format) to STGP. She/he is also responsible for providing any other requested data for the purpose of maintaining a GP data repository or quality assurance.
- Students will be encouraged to fill up a survey at the end of Semester 2 (see Appendix A.5).
- Figure 1 (see Appendix A) portrays the highlight of the above mentioned GP process.
- If the students need to access resources pertaining to their project such as conducting a survey with human subjects within or outside the Umm Al-Qura University campus, access data from any proprietary database such as University Registration Department, to name a few, they need to fill up a form (see Appendix A) outlining the justification and scope of the project, get it signed by the project supervisor and the Head of the respective department.

5. GP Deliverables

5.1 Overview

The following table contains a minimal set of GP deliverables along with the purpose and the deadline of submission. The set of deliverables (given in Table 1) depends upon the nature of the project. Each deliverable is mandatory and alternate can be defined in consultation with the supervisor and the GP coordinator (at least a week before submission deadline). Each submitted deliverable must be duly signed by the supervisor. The submission without supervisor's approval will not be considered. Late submissions are liable to get penalty decided by GP Committee. The students may get a zero for a particular submission.

TABLE I – GP Deliverables (for two semester plan)

Deliverable	Purpose	Student information	Due
Start of Semester 1			
Project Proposal	To document the problem statement, need for the project, project scope and expected benefits	Submit to supervisor	4 th week of Semester 1
Project Report	To submit project deliverables (including the recommended documents of Semester 1 shown in Table III) in the form of a single report	Submit to Supervisor	15 th week of Semester 1
Final Presentation	An examiner is invited to evaluate students' projects	Present to Supervisor, Examiners	Saturday of 18 th week
Grading of Semester 1 and End of Semester 1			
Start of Semester 2			
Final Report	To bind all project deliverables (including the recommended documents of Semester 2 shown in Table III) in the form of a single report.	Submit to Supervisor	14 th week of Semester 2
Final Presentation & Demo	An examiner is invited to evaluate students' projects	Present to Supervisor, Examiners	15 th week of Semester 2
Grading of Semester 2 and End of GP			

TABLE II – GP Deliverables (for one semester plan)

Deliverable	Purpose	Student information	Due
Start of Semester			
Project Proposal	To document the problem statement, need for the project, project scope and expected benefits	Submit to supervisor	3 rd week
Final Report	To bind all project deliverables (including the recommended documents of Semester 1 and Semester 2 shown in Table III) in the form of a single report.	Submit to Supervisor	15 th week
Final Presentation & Demo	An examiner is invited to evaluate students' projects	Present to Supervisor, Examiners	15 th week
End of Semester and End of GP			

TABLE III – Documents recommended and can be part of the deliverables shown in Table I and Table II

Deliverable	Purpose	Student information	Due
Start of Semester 1			
Project Management Plan (PMP)	To document project development approach, associated milestones, agreed deliverables and dates	Submit to supervisor	10 th week of Semester 1
Project Requirement Specification (PRS)	To document the agreed requirements, expected features, constraints, interfaces. This document is also supposed to provide the system design and modeling	Submit to supervisor	13 th week of Semester 1
Start of Semester 2			
Project Design Document	To document the design in order to provide the basis for implementation and unit test. Also describes the rationale for design decisions taken.	Submit to Supervisor	3 rd week of Semester 2
Test Document	To document how the project will be tested, and record the results.	Submit to Supervisor	14 th week of Semester 2
Grading of Semester 2 and End of GP			

5.2 End of GP Submission

- Four copies of the bound report (one for boy's departmental library, one for girl's departmental library, one for examiner and one for supervisor)
- A CD (for the supervisor) comprising the following folders:
 - o Report (soft copy of the final report, and power point presentation)
 - o Code (complete source code of the project)
 - o Demo (the executable in working order and a readme file containing the information about the software requirements (tools) and hardware requirements for the GP as well as the instructions or the steps (soft copy of the user manual) for running the GP executable).

6. GP Evaluation

6.1 Evaluation Criteria

Following table explains a guideline for the criteria to be used for GP evaluation/assessment along with description and evaluation authority (s).

Table IV: GP Evaluation Criteria

Criteria	Description	Evaluation Authority(s)
Semester 1 and Semester 2 Process	To assess that student(s) have kept continuous contact during the work and have been on time both to meetings and in sending deliverables.	Supervisor
Semester 1 Project Presentation	To assess that student(s) have completed tasks and delivered documents expected in the first half of the course i.e. Semester 1. It includes both demonstration and presentation of the work.	Supervisor, Supervisory Committee
Semester 1 Proposal	To assess that the chosen project is worthy of being acceptable as a GP and if acceptable, register the project in the GP database.	Supervisory Committee
Semester 2 Project Demonstration	To assess the end product developed in terms of interfaces, coding standards, and originality of the work. It requires student(s) to install project and run it for real time presentation.	Supervisor, Supervisory Committee, Examiner
Semester 2 Oral Presentation	To assess problem understanding, adequate analysis, quality of the design and presentation skills. Each group is required to discuss the completeness and accomplishment of the project.	Supervisor, Supervisory Committee, Examiner
Semester 1 and Semester 2 Project Report	To assess the structure of the project report. Student(s) are required to show planning and progress in an organized way with emphasis on the interpretation of the information gathered during the project. Project reports have to be submitted in both Semester 1 and Semester 2.	Supervisor, Examiner

6.2 Mark Allocation Policy

A recommended percentage for each criterion is shown in the following table:

Table V: Percentage of evaluation for each criterion

Criteria	Supervisor	Supervisory Committee	Examiner	Total
Semester 1 Process	10	-	-	10
Semester 1 Proposal	-	05	-	05
Semester 1 Presentation	10	05	-	15
Semester 1 Report	15	-	05	20
Semester 2 Process	10	-	-	10
Semester 2 Demo	05	05	05	15
Semester 2 Presentation	05	05	05	15
Semester 2 Report	05	05	-	10
Total	60	25	15	100

Rubrics for each criterion are explained in Appendix A.5.

Appendix A

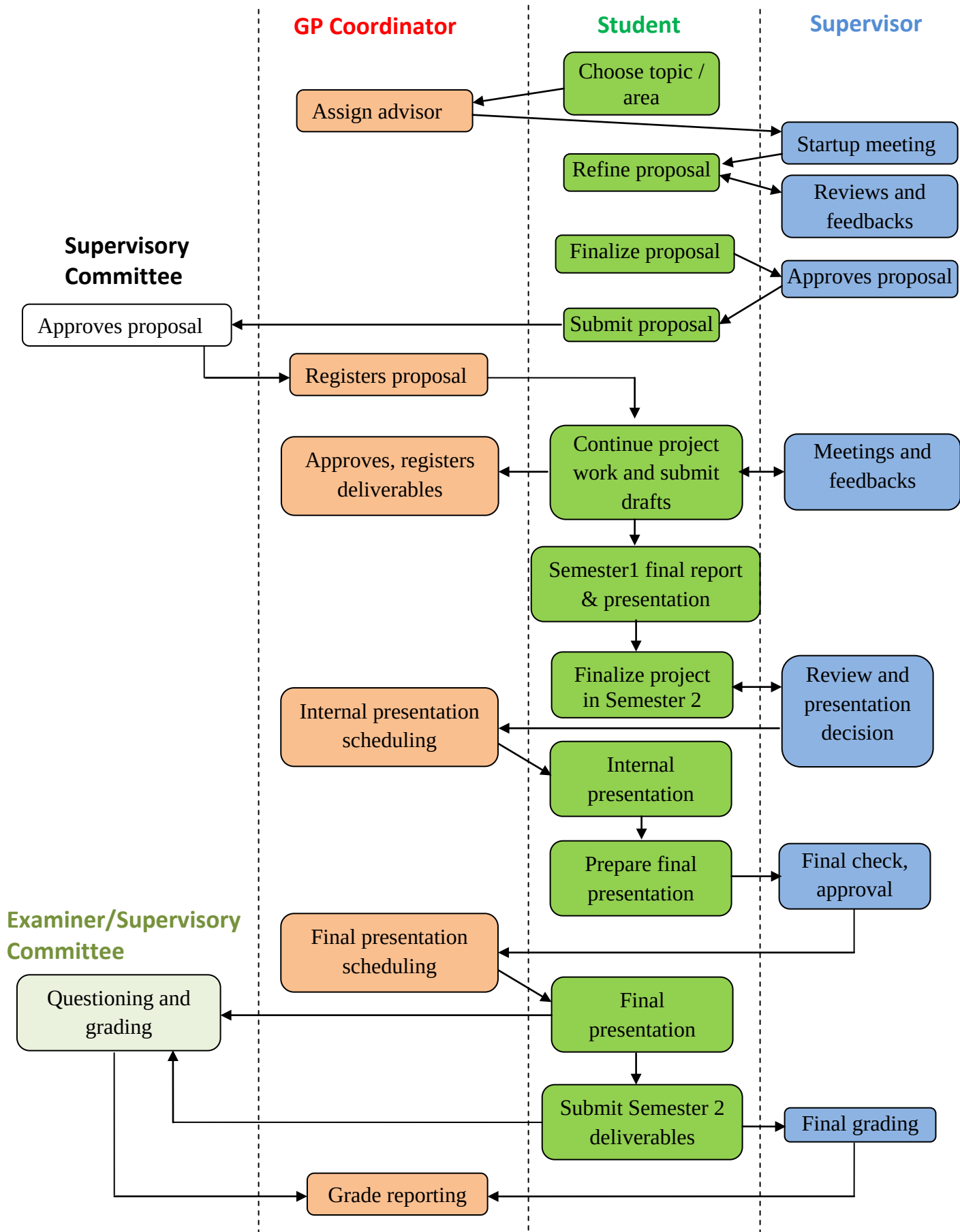


Figure 1: High level overview of GP Process

A.1 Contents of GP Deliverables

This section explains the contents of each deliverable. The contents have to be taken as a guideline and can be tailored to reflect the emphasis of a particular project of any relevant department. Each deliverable must have a cover page containing the history of edition and supervisor's approval.

A.1.1 Cover Page

[DOCUMENT TITLE]

[PROJECT NAME]

Document History:

Version (Draft/final)	Author	Description of Version	Date	Signature

Reviewers:

Team Members	Student Name	Registration No	Date	Signature
1				
2				
3				

Supervised by: _____<Supervisor Name> _____<Date> _____<Signature>

Approved by: _____<Coordinator Name> _____<Date> _____<Signature>

[Project Team]

Dept. of _____
Faculty of Computer and Information Systems
Umm Al Qura University, KSA.

A.1.2 Project Management Plan

Project Management Plan

Cover Page

Table of Contents

1 INTRODUCTION

1.1 Project Overview

1.2 Project Deliverables

2 PROJECT ORGANIZATIONS

2.1 Process Model

2.2 Roles and Responsibilities

2.3 Tools and Techniques

3 PROJECT MANAGEMENT PLAN

3.1 Tasks

3.1. n Task-*n*

3.1. n.1 Description

3.1.n.2 Deliverables and Milestones

3.1.n.3 Resources Needed

3.1.n.4 Dependencies and Constraints

3.1.n.5 Risks and Contingencies

3.2 Gantt Chart

4 ADDITIONAL MATERIALS

The students prepare a Poster of size 22.5'' x 34.5'' which are placed on an open display and are reviewed by the Supervisory Committee.

Project Poster Sample



**THIS IS THE TITLE OF MY POSTER THIS IS THE TITLE
OF MY POSTERTHIS IS THE TITLE OF MY POSTER**

Mohammad, Ahmad, Mustapha, and Taha

Departments of Computer Science, Umm Al Qura University, Makkah Al Mukarramah, KSA

Abstract

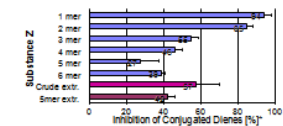
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Methods

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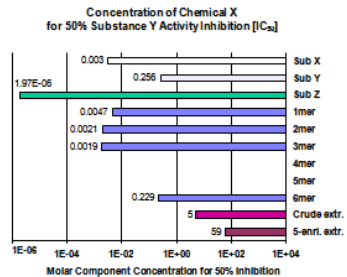
Results

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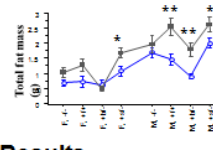
Introduction

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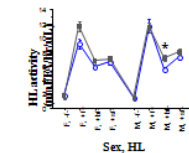
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Results

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Results

[illegible]

Conclusion

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A.1.4 Project Requirements Specifications (PRS)

Project Requirements Specifications (PRS)

Cover Page

Table of Contents

1 INTRODUCTION

1.1 Project Overview

2 SPECIFIC REQUIREMENTS

2.1 External Interface Requirements

2.1.1 User Interfaces

2.1.2 Hardware Interfaces

2.1.3 Software Interfaces

2.1.4 Communications Protocols

2.2 Software Product Features

2.3 Software System Attributes

2.3.1 Reliability

2.3.2 Availability

2.3.3 Security

2.3.4 Maintainability

2.3.5 Portability

2.3.6 Performance

2.4 Database Requirements

3 ADDITIONAL MATERIALS

A.1.5 Project Design Description (PDD)

Project Design Description (PDD)

Cover Page

Table of Contents

1 INTRODUCTION

1.1 Design Overview

1.2 Requirements Traceability Matrix

2 SYSTEM ARCHITECTURAL DESIGN

2.1 Chosen System Architecture

2.2 Discussion of Alternative Designs

2.3 System Interface Description

3 DETAILED DESCRIPTIONS OF COMPONENTS

3.*n* Component-*n*

4 USER INTERFACE DESIGN

4.1 Description of the User Interface

4.1.1 Screen Images

4.1.2 Objects and Actions

5 ADDITIONAL MATERIALS

A.1.6 Project Test Documentation (PTD)

Project Test Documentation (PTD)

Cover Page

Table of Contents

1 INTRODUCTION

1.1 System Overview

1.2 Test Approach

2 TEST PLAN

2.1 Features to be Tested

2.2 Features not to be Tested

2.3 Testing Tools and Environment

3 TEST CASES

3.*n* Case-*n*

3.*n*.1 Purpose

3.*n*.2 Inputs

3.*n*.3 Expected Outputs & Pass/Fail criteria

3.*n*.4 Test Procedure

4 ADDITIONAL MATERIAL (including appendix A)

APPENDIX A. TEST LOGS

A.*n* Log for test *n*

A.*n*.1 Test Results

A.*n*.2 Incident/Bug Report

A.2 Guidelines for the Preparation of GP Poster

The GP poster is a condensed representation of the Final Year Project. It should be neat, attractive, and very inviting. Posters are to be placed on an open display and are reviewed by the Supervisory Committee which will grade each poster.

The following is a list of recommended poster guidelines:

- Poster size must be 22.5" x 34.5".
- The orientation of the poster *should be Portrait*.
- Don't use too much text - just highlight your major points. Use bullets whenever possible.
- Poster should contain Umm Al Qura University logo.
- Make sure the font is large enough for people to see from a couple of feet away.
- Illustrations and visualizations of concepts (maps, pictures, photos, design drawings, diagrams, tables, charts, graphs, "screen captures") look nice and can often say more than words.
- Make sure you check your spelling! (Also, note that capitalized words are often skipped by most spell checkers.)
- The top-left part on the left side may be the title part and may contain Title of the project, group members and Supervisor(s).
- The top-right part may contain Project Goals.
- The bottom part may contain Project Plan and list of tentative deliverables for final evaluation of GP course.
- While staying within these guidelines there is plenty of scope for individual creativity through the use of different fonts, colors, backgrounds and graphics.
- Do not include too much information. Too much information may obscure the main message of the poster. Limit the information to key information; rely on answering questions and on your project summary to get across the detail.
- Use graphics where appropriate.
- Posters should be printed on appropriate material.
- Recommended tools for making poster are Adobe Photoshop and/or Corel Draw.

A.3 GP Report and Proposal Style Guideline

Paper

Standard A4 size
Width: 8.27"
Height: 11.69"
Weight: 90 Grams

Fonts, Type Styles

Font Size = 11 (Normal Text)
Font = Times New Roman
Title= 26 bold (Times New Roman)
Sub-title=16 bold (Times New Roman)
Heading 1 (Font Size) = 16 (Bold), Font = Times New Roman, UPPERCASE
Heading 2 (Font Size) = 14(Bold), Font = Times New Roman
Heading 3 (Font Size) = 13 (Bold, Italics), Font = Times New Roman

Margins

Top = 1.5"
Bottom = 1.0"
Left = 2.0"
Right = 1.0"

Spacing

Line Spacing = 1.5
Paragraph Spacing = 6 pts

Indentation

Indent all quotations comprising 4 or more lines by 5 spaces from left.

Page Numbers

Except for the title page, number all pages which come before the first page of the body chapters consecutively with lower case roman numerals (i, ii, iii, iv...).

The first page with Arabic numeral (1, 2, 3, and so on) starts from the page of the introduction but it is mentioned on page 2 onwards. Mention page numbers on the bottom right of the page. The first page of each section or chapter will not carry the page number; however the page number will be counted for the proceeding page.

Headers

The header will comprise the title of the Project report. On every odd page will appear the title of the report while on the even pages the title of the chapter or section will be mentioned. The first page of every section or chapter shall not carry the header.

Binding guidelines

The final report binding should have a dark blue background with Project information written in silver color.

A.4 GP Report Prefatory Pages

A.4.1 Title Page

The title page should include the title of the report along with the name(s) of the department and university for which the report is written, month & year of submission and the project number. Each project will be assigned a Project number for future reference. Also included on the title page should be the name(s) of the author(s) of the report. Title Page is followed by a blank page. A sample title page is shown below.

BSc Project
CS/CE/IS Department
Project ID: UQU-CS/CE/IS-YYYY-xx
Month Year



Centered Title Times Font Size 26 Bold

Centered SubTitle Times Font Size 16 Bold

Centered Author(s) TimesFontSize18Bold

Dept. of _____

Faculty of Computer and Information Systems

Umm Al-Qura University, KSA

A.4.2 Contact Information

Below is a sample contact information page. It follows the blank page (after the title page) and contains information about the author(s), external supervisor (if any), internal supervisor and the examiner.

This project report is submitted to the Department of _____ at Umm Al-Qura University in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Engineering/Computer Science/Information Systems.

Author(s):

Firstname Lastname

Address: If applicable

E-mail: If applicable, a long-term e-mail (not your student e-mail)

University supervisor(s):

Firstname Lastname

Department name

Co-supervisor(if applicable):

Firstname Lastname

Company/Organization full name

Address:

Phone: International standard, e.g. use +

Dept. of _____
Faculty of Computer and Information Systems
Umm Al Qura University
Kingdom of Saudi Arabia

Internet: <http://www.uqu.edu.sa>
Phone: +966 xxxxxxxxx
Fax : +966 xxxxxxxxx

A.4.3 Intellectual Property Right Declaration

Below is a sample for intellectual property right declaration page. It follows the contact information page.

Intellectual Property Right Declaration

This is to declare that the work under the supervision of _____ having title “_____” carried out in partial fulfillment of the requirements of Bachelor of Science in _____, is the sole property of the Umm Al Qura University and the respective supervisor and is protected under the intellectual property right laws and conventions. It can only be considered/ used for purposes like extension for further enhancement, product development, adoption for commercial/organizational usage, etc., with the permission of the University and respective supervisor.

This above statement applies to all students and faculty members.

Date: _____

Author(s):

Name: Firstname Lastname

Signature: _____

Name: Firstname Lastname

Signature: _____

Name: Firstname Lastname

Signature: _____

Supervisor(s):

Name: Firstname Lastname Signature: _____

A.4.4 Anti-Plagiarism Declaration

Below is a sample for Anti-plagiarism declaration, it follows the intellectual property right declaration page.

Anti-Plagiarism Declaration

This is to declare that the above publication produced under the supervision of _____ having title “_____” is the sole contribution of the author(s) and no part hereof has been reproduced illegally (cut and paste) which can be considered as Plagiarism. All referenced parts have been used to argue the idea and have been cited properly. I/We will be responsible and liable for any consequence if violation of this declaration is proven.

Date: _____

Author(s):

Name: Firstname Lastname Signature: _____

Name: Firstname Lastname Signature: _____

Name: Firstname Lastname Signature: _____

A.4.5 Acknowledgement

Below is a sample for Acknowledgement page, it follows the Anti-Plagiarism Declaration page.

ACKNOWLEDGMENTS

This work is dedicated to my dear parents, the most loving in this world.

A.4.6 Abstract

Below is a sample for Abstract page. It follows the Acknowledgement page.

ABSTRACT

[Abstract text]

Keywords: 3-4 keywords, maximum 2 of these from the title, which starts one line below the Abstract.

A.4.7 Table of Contents

Below is a sample for Contents page. It follows the Abstract page.

TABLE OF CONTENTS
[Table of contents]

A.4.8 GP Report Chapters

From here onwards this document should be organized into different chapters specific to each project. Rest of the section outlines chapters to be included and the recommended contents of each chapter.

Chapter 1 – Introduction

Chapter 1 INTRODUCTION

- 1.1 Purpose of the Project
- 1.2 Purpose of this Document
- 1.3 Overview of this Document
- 1.4 Existing System
 - 1.4.1 Existing system description
 - 1.4.2 Problems in the existing system

Chapter 2 – System Analysis

Chapter 2 SYSTEM ANALYSIS

- 2.1 Data Analysis
 - 2.1.1 Data flow diagrams
 - 2.1.2 System requirements
 - 2.1.2.1 Clients, customer and users
 - 2.1.2.2 Functional and data requirements
 - 2.1.2.3 Non-functional requirements
 - 2.1.2.3.1 Look and feel requirements
 - 2.1.2.3.2 Usability requirements
 - 2.1.2.3.3 Security requirements
 - 2.1.2.3.4 Performance requirement
 - 2.1.2.3.5 Portability requirements
 - 2.1.3 Proposed Solutions
 - 2.1.4 Alternative Solutions

Chapter 3 – Design Considerations

Chapter 3 DESIGN CONSIDERATIONS

- 3.1 Design Constraints
 - 3.1.1 Hardware and software environment
 - 3.1.2 End user characteristics
- 3.2 Architectural Strategies
 - 3.2.1 Algorithm to be used

- 3.2.2 Reuse of existing software components
- 3.2.3 Project management strategies
- 3.2.4 Development method
- 3.2.5 Future enhancements/plans

Chapter 4 – System Design

Chapter 4 SYSTEM DESIGN

- 4.1 System Architecture and Program Flow
 - 4.1.1 Major modules
 - 4.1.2 Sub modules
- 4.2 Detailed System Design
 - 4.2.1 Detailed component description

Chapter 5 – Implementation and Validation

Chapter 5 IMPLEMENTATION AND VALIDATION

Appendices

Appendix A CODE

Appendix References

A.4.9 Deduction Rules

One of the most important objectives of GP course is to train students for effective time management, which is essential for successful project completion. To keep students on track and to maintain the flow of the project, GP Coordinator is responsible for announcing deadlines for upcoming deliverables. Supervisor continuously assesses students on a process criterion (see Appendix A) during the project. Late submissions and irregular meetings may result in deduction of marks depending upon the supervisor's judgment.

Criteria for late project report submission is as following:

Report Delay	Marks Deduction
1 day	(1/3marks)
2 day	(2/3marks)
3 day	(0 marks)
No Oral Presentation without report submission	

A.4.10 Plagiarism

Plagiarism will result in 0 marks in Project Report, Project Presentation and Project Demonstration and may only get marks for Semester 1 & 2 processes. This means student (s) may lose 80% of the marks. In order to detect plagiarism, we will resort to the following online tools

- <https://www.turnitin.com/static/index.php>

A.4.11 Result Compilation

At the end of the Oral Presentation, marks and grades submitted by the project supervisor, supervisory committee and examiners are collected and complied for letter grades.

Bibliography

- [1] The Joint Task Force on Computing Curricula, "Computing Curricula 2001," *IEEE Computer Society, Association for Computing Machinery*, December 15 2001.
- [2] Declan Delaney and Stephen Brown, "Document Templates For Student Projects in Software Engineering," Department of Computer Science, National University of Ireland, Maynooth, August 2002.
- [3] Richard Hall Thayer and Andrew D. McGettrick, "IEEE Software Engineering Standards: A Students' Version," in *20th Conference on Software Engineering Education & Training*, 2007.
- [4] IEEE Std. 1008-1997, IEEE Standard for Software Unit Testing.
- [5] IEEE Std. 1012-1998, IEEE Standard for Software Verification and Validation.
- [6] IEEE Std. 1016-1998, IEEE Recommended Practice for Software Design Descriptions.
- [7] IEEE Std 1058-1998, IEEE Standard for Software Project Management Plans.
- [8] IEEE Std 1540-2001, IEEE Standard for Software Life Cycle Processes – Risk Management.
- [9] IEEE Std. 829-1998, IEEE Standard for Software Test Documentation.
- [10] IEEE Std. 830-1998, IEEE Recommended Practice for Software Requirements Specifications.

A.5 Miscellaneous Forms



UQU Final Year Project Start Form

Fill in the information below as detailed as you can when submitting your project idea.

Team Members			
Student ID	Name	Email	Credit Hrs *

Area of interest (Tick one or more)			
Development Track		Research Track	
1. Desktop application		1. Requirement Engineering	
2. Web application		2. Design & Architecture	
3. Client-Server application		3. Verification & Validation	
4. Computer Game		4. Project Management	
5. Mobile application/Game		5. Tools	
6. Others:		6. Others:	

Preferred supervisor (if any): _____

Project description:

GP Coordinator, CS/CE/IS Department

Proposal for

**FINAL YEAR PROJECT IN CS/CE/IS
Umm Al Qura University**



<Project Title>

Team Name

Team Logo

Team Name

Team Logo

Team Members

< Student name> <Student ID>
< email@uqu.edu.sa>

Project Leader

< Student name> <Student ID>

Project Supervisor

< name >

< email >

Start – end

< DD.MM.YYYY> — < DD.MM.YYYY >

Credit Hrs

Proposal for

FINAL YEAR PROJECT IN CS/CE/IS Umm Al Qura University



<Project Title>

Background	<i>One paragraph introducing and motivating the problem. Should answer: Which area of computer science/computer engineering/information systems is this about? What particular part of that area? Why is this important?</i>
	<i>2-3 paragraphs giving more detailed background. Should answer: What has been done by others in this area? What is the current state of the art?</i>
Project Scope	<i>Project scope statement</i>
Project Description	<i>1-2 paragraphs detailing the gap in our current knowledge. Should answer: What is missing in our current knowledge? What is the main purpose of doing this project? What are the main features of this project?</i>
Expected Outcome	<i>State the concrete results that will be the deliverables/output from the project.</i>
Method/Approach	<i>In what way and process that you can reach your goal/result?</i>
Relevant references	<i>Books, journals, conference papers, and (not many) some internet links</i>



GP Regular Supervision Record Form

Before each weekly project meeting with supervisor, the students will fill this form and will submit it to GP coordinator after the meeting. Copies will be submitted in the Course's file at GP Coordinator office.

SECTION -1 (to be completed by the STUDENT prior to meeting)	
Students' Names:	Supervisor Name:
Date:	Date of previous meeting:
Work undertaken since last meeting:	
Issues you would like to discuss in this meeting:	
SECTION -2 (to be completed by the SUPERVISOR at the meeting)	
Work student should undertake between now and next meeting:	
SECTION -3	
Date of next meeting:	
Signatures:	Student (Team Leader):
	Supervisor:



GP Final Project Rubric – Semester 1

Project Title: _____

Supervisor: _____ Date: _____

Group Members		Evaluation Criteria				Grade
Student ID	Name	Process (20%)	Project Presentation (30%)	Proposal (10%)	Report (40%)	Letter Grade

Letter Grades Guidelines:-

A+: 95% and above	C: 70 – 74
A: 90 – 94	D+: 65 – 69
B+: 85 – 89	D: 60 – 64
B: 80 – 84	F: 00 – 59
C+: 75 – 79	

(Please attached the relevant rubrics for each student)

(To be filled by the Head of Department)

Project Evaluation Committee	
Supervisory Committee Member (s):	Examiner (s):
1:	1:
2:	2:
3:	3:

Head of (CS/CE/IS) Department



GP Final Project Rubric – Semester 2

Project Title: _____

Supervisor: _____ Date: _____

Group Members		Evaluation Criteria				Grade
Student ID	Name	Process (20%)	Project Presentation (30%)	Demo (30%)	Report (20%)	Letter Grade

Letter Grades Guidelines:-

A+: 95% and above	C: 70 – 74
A: 90 – 94	D+: 65 – 69
B+: 85 – 89	D: 60 – 64
B: 80 – 84	F: 00 – 59
C+: 75 – 79	

(Please attached the relevant rubrics for each student)

(To be filled by the Head of Department)

Project Evaluation Committee	
Supervisory Committee Member (s):	Examiner (s):
1:	1:
2:	2:
3:	3:

Head of (CS/CE/IS) Department



GP Process Rubric

Project Title: _____

Student Name: _____ **Student ID:** _____

Total Marks: 10 (Semester 1) + 10 (Semester 2) **Obtained Marks:** _____

Criteria	4 -Superior command	3 – Good control	2 – Fair/some control	1 – Minimal/no control	Marks
Regularity (Scale: 3)	Student has kept continuous contact during the work and has been on time both to meetings and in sending deliverables.	Student has mostly sent deliverables on agreed dates. With only a few exceptions, student(s) have been on time to meetings and in reporting their progress.	Student has been late to meetings or in sending deliverables in a way that have hampered the process. The Supervisor had to prompt the students with questions about the status of the work.	Student has a serious problem with keeping agreed to meeting and deadlines. Supervisor has not been able to get a picture of the status of the work during the project.	
Independence (Scale: 2)	Student has independently managed the project and carried out the work.	Student has managed the project and carried out the work with some help from the supervisor.	Supervisor has given a lot of help to the students in managing the project and carrying out the work.	Supervisor had to manage the project and direct the students in carrying out the work.	
Total					

Comments:

About Evaluator:

Name: _____	Role (Check all that applies) Supervisor Faculty Member
Signature: _____	
Date: _____	



GP Proposal Rubric

Project ID and Title: _____

Student Name: _____ Student ID: _____

Total Marks: 5 (Semester 1)

Obtained Marks: _____

Criteria	4 -Superior command	3 – Good control	2 – Fair/some control	1 – Minimal or no control	Marks
Style and Format (Scale: 1)	Preliminary pages are as required. Tables and figures have the proper captions. Complete references are given	Preliminary pages are as required. The tables and figures have the proper captions. Adequate references are given	Preliminary pages are as required. Title of tables and figures can be improved. References are given occasionally	Preliminary pages are not as required. Improper caption of tables and figures. References are incomplete and incorrect	
Contents (Scale: 1)	Material content is clear and concise. Accurate details are present to support the main idea. Significant points are well identified	Material content is clear and appropriate. Some details are present to support the main idea. Significant points are identified	Material content is Appropriate. Some details are present to support the main idea. Some of the significant points are identified	Material lacks the relevant content. Details lack a clear connection to the purpose. Everything seems as important as everything else.	
Language (Spelling, Wording, Grammar) (Scale: 1)	There are no errors that impair the flow of communication. Perfect with <5 errors	Occasional errors that have only minor impact on flow of communication. Good with <10 errors	Frequent errors that impede the flow of communication. Ok with <15 errors.	Errors are serious and numerous. Reader must stop and reread and may struggle to discern the writer's intention. Multiple, serious errors.	
Structure (Scale: 1)	Document is efficiently organized in a logical order. Well-balanced graphical representation further enhances the central theme	Document is adequately organized in a logical order. Graphical representation can be improved to further enhance the central theme	Logical organization can be improved. Graphical representation can be improved to further enhance the central theme	Document is not organized in a logical order and is difficult to follow	
Completeness and Accuracy (Scale: 1)	Complete, accurate description of important outcomes	Incomplete, accurate description of important outcomes	Complete, inaccurate description of important outcomes	Incomplete, inaccurate description of important outcomes	
Total					

Comments:

About Evaluator:

Name: _____	Role (Check all that applies)		
Signature: _____	☐ Supervisor	☐ Supervisory Committee	☐ External Examiner
Date: _____			



GP Presentation Rubric

Project Title: _____

Student Name: _____ Student ID: _____

Total Marks: _____ Obtained Marks: _____

Criteria	4 -Superior command	3 – Good control	2 – Fair/some control	1 – Minimal or no control	Marks
Subject knowledge	Student has presented full knowledge of both problem and solution. Answers to questions are strengthen by rationalization and explanation	Student has competent knowledge and is at ease with information. Can answer questions but without rationalization and explanation	Student is uncomfortable with information. Seems Novice and can answer basic questions only.	Student has no or very less knowledge of both problem and solution. Cannot answer questions	
Organization	Information articulated clearly and is organized in a structured way with logical flow between parts	Information articulated clearly but the flow is somewhat hampered	Information articulated clearly but it is difficult to follow the presentation	Information is arranged in confused and unstructured way	
Contents	All key points are covered. Enhances presentation and keeps interest by effective use of charts, graphs, figures etc., to explain salient points	All key points are covered but limited use of charts, graphs, figures etc., to explain salient points	All key points are covered but no use of charts, graphs, figures etc., to explain salient points	Key points are not covered. Poor, distracts audience and is hard to understand/interpret	
Presentation	Student confidence is noteworthy. Builds trust and holds attention by direct eye contact and natural hand gesture adopted to the content	Student confidence is good. Holds attention by fairly consistent use of direct eye contact with audience	Student confidence is Ok. Only focuses on one part of the audience. Does not scan audience	Student lacks confidence. Does not attempt to look at audience at all. Reads notes or looks at computer screen only	
Completeness and Accuracy	Complete, accurate description of important outcomes	Incomplete, accurate description of important outcomes	Complete, inaccurate description of important outcomes	Incomplete, inaccurate description of important outcomes	
Total					

Comments:

About Evaluator:

Name: _____	Role (Check all that applies)		
Signature: _____	Supervisor	Supervisory Committee	External Examiner
Date: _____			



GP Report Rubric

Project Title: _____

Student Name: _____ Student ID: _____

Total Marks: _____ Obtained Marks: _____

Criteria	4 -Superior command	3 – Good control	2 – Fair/some control	1 – Minimal or no control	Marks
Style and Format	Preliminary pages are as required. Tables and figures have the proper captions. Complete references are given	Preliminary pages are as required. The tables and figures have the proper captions. Adequate references are given	Preliminary pages are as required. Title of tables and figures can be improved. References are given occasionally	Preliminary pages are not as required. Improper caption of tables and figures. References are incomplete and incorrect	
Contents	Material content is clear and concise. Accurate details are present to support the main idea. Significant points are well identified	Material content is clear and appropriate. Some details are present to support the main idea. Significant points are identified	Material content is Appropriate. Some details are present to support the main idea. Some of the significant points are identified	Material lacks the relevant content. Details lack a clear connection to the purpose. Everything seems as important as everything else.	
Language (Spelling, Wording, Grammar)	There are no errors that impair the flow of communication. Perfect with <5 errors	Occasional errors that have only minor impact on flow of communication. Good with <10 errors	Frequent errors that impede the flow of communication. Ok with <15 errors.	Errors are serious and numerous. Reader must stop and reread and may struggle to discern the writer's intention. Multiple, serious errors.	
Structure	Document is efficiently organized in a logical order. Well-balanced graphical representation further enhances the central theme	Document is adequately organized in a logical order. Graphical representation can be improved to further enhance the central theme	Logical organization can be improved. Graphical representation can be improved to further enhance the central theme	Document is not organized in a logical order and is difficult to follow	
Completeness and Accuracy	Complete, accurate description of important outcomes	Incomplete, accurate description of important outcomes	Complete, inaccurate description of important outcomes	Incomplete, inaccurate description of important outcomes	
Total					

Comments:

About Evaluator:

Name: _____	Role (Check all that applies)		
Signature: _____			
Date: _____			
	Supervisor	Supervisory Committee	External Examiner



GP Demonstration Rubric

Project Title: _____

Student Name: _____ Student ID: _____

Total Marks: 15

Obtained Marks: _____

Criteria	4 -Superior command	3 – Good control	2 – Fair/some control	1 – Minimal or no control	Marks
Task Distribution (Scale: 1.5)	A well-balanced collaboration where all students have a good grasp of all parts of the work	A balanced collaboration where all students have a grasp of the whole work even though they have focused on slightly different parts	A collaboration where all students have contributed equally to the work even if they have worked more independently on different parts	An imbalanced collaboration where one student have contributed more than the others	
Originality (Scale: 1.5)	Working product has several relative/original/ inventive elements and a clear potential for making a creative contribution.	Working product has some creative/original/ inventive element and a potential for making a creative contribution.	Working product has no creative/original/inventive elements but some potential for making a creative contribution.	Working product is uninspired and straightforward work with little to no creative potential.	
Usability (Scale: 1.5)	GUI is well designed, consistent, and optimizes learning. Animation always complements	GUI is consistent and appropriate. Animation often complements learning	GUI is not always consistent or appropriate. Animation rarely complements learning.	GUI is inconsistent, inappropriate, and do not enhance learning	
Help Manual (Scale: 1.5)	Help Manual is well designed. All information relates to the stated purpose and learning goals (Paragraphs and sections have clear and accurate informative headings)	Help Manual is designed appropriately. Information relates mostly to the stated purpose and learning goals (most paragraphs and sections have clear and accurate informative headings)	Help Manual is present. Content lacks sense of purpose or central theme(some paragraphs and sections have clear and accurate informative headings)	Help Manual is not designed.	
Coding Standards (Scale: 1.5)	Coding standards are followed extensively (indentation, naming convention, and comments are well placed)	Coding standards are followed appropriately (indentation, naming convention, and comments are ok)	Coding standards are rarely followed (indentation, naming convention, comments are seldom placed)	Coding standards are inconsistently followed.	
Total					

Comments:

About Evaluator:

Name: _____	Role (Check all that applies)		
Signature: _____			
Date: _____			
	Supervisor	Supervisory Committee	Examiner



GP Resource Request Form

Before asking resources relevant to any project, certain approvals will be needed. If the subject of the request is confined to your own class, office, or department, please obtain approval from your Head, Dean, Coordinator, Director, or other appropriate manager. As well, it is necessary to obtain approval if your request pertains to human subjects. Copies will be submitted in the Course's file at GP Coordinator office.

SECTION -1 (to be completed by the STUDENT prior to request)	
Students' Names:	Supervisor Name:
Date of request:	Expected date of completion of using the resource(s):
Briefly describe the resources you are requesting, address of the resource and its purpose:	
How will you use the data/information and who will it be shared with?	
SECTION -2 (to be completed by the SUPERVISOR)	
Please justify the above request:	
SECTION -3	
Signatures:	Student (Team Leader):
	Supervisor:
	Chairman/Dean:



GP Survey Form

Through this capstone project survey we are asking graduating students to evaluate their experience as students at Umm Al-Qura University. All responses will be kept confidential and used as an internal assessment tool to improve our GP programs. We appreciate your help in filling out this survey. Thank you in advance.

Name: _____ ID: _____

Email (other than UQU): _____ Mobile No.: _____

Number of Years at UQU: _____ Overall GPA: _____

Student Outcomes (SOs) Evaluation

The Student Outcomes (SOs) are statements that describe what the graduates are expected to know and be able to do by the time of graduation. They are related to skills, knowledge and behavior that each student acquired through the GP program.

My Capstone Design Project has given me the ability to:		To what degree your capstone design project meets the following outcomes				
		Excellent	Very Good	Good	Poor	Very Poor
a	Apply knowledge of mathematics, science, and engineering					
b	Design and conduct experiments, and collect, analyze and interpret data.					
c	Design a system, process, or component to meet desired needs subject to given constraints					
d	Function on multi-disciplinary and/or diverse teams. Take responsibility, share work, and value other viewpoints.					
e	Identify, formulate, and solve engineering problems					
f	Understand professional and ethical responsibilities					
g	Communicate effectively – oral and written					
h	Understand the impact of engineering solutions in a global, economic, environmental, and societal context					
i	Recognize the need for and demonstrate ability to engage in lifelong learning					
j	Know about contemporary (state-of-the-art) issues relevant to computer engineering/science					
k	Use techniques, skills and modern engineering tools necessary for engineering practice					

Facilities and Support

1. The available hardware equipment and software tools have been sufficient to accomplish my project.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

2. The administration helps in providing new hardware equipment and software tools.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

3. The staff support has been satisfactory.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

General comments and suggestions

Please comment on any aspects of the GP that you think is relevant.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



GP Course Learning Outcomes

Course Title	Undergraduate Project		
Course Number		Credit Hours	

Course Learning Outcomes (CLO's)

1. Identify and formulate relevant thesis, problem or research question; set goals and scope of the problem and systematically outline a plan for solving the problem.
2. Find and organize appropriate resources associated with a particular problem.
3. Gain in-depth understanding of the relevant research or engineering problem by using literature and other resources.
4. Successfully analyze, specify, design, and implement a solution to the selected problem including all aspects of the project like risk and time management, team coordination, and purchasing.
5. Report the outcomes of the project by means of verbal and written presentation

Relationship between CLO's and Student Outcomes (SO's). Entries in the table indicate which CLO's relate to which SO's.

Student Outcomes – Mapped to Course Learning Outcomes											
CLO's	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	X				X						
2					X						
3	X									X	
4		X	X								
5				X			X				