CSE6214 SOFTWARE ENGINEERING FUNDAMENTALS
OCTOBER/NOVEMBER 2024 (TERM2430)
PROJECT DESCRIPTION

Significant Dates:

- Group formation : 04 Nov – 17 Nov 2024, 12 midnight (Week 02)
- Submission Project
  - Part I (Project Planning / Requirements Analysis) : 08 Dec 2024, 12 midnight (Week 05)
  - Part II (Design / Architecture / Interfaces / Database) : 12 Jan 2025, 12 midnight (Week 10)
  - Part III (Development / Testing / Project Monitoring & Reporting) : 09 Feb 2025, 12 midnight (Week 14)
- Presentation : 10 – 14 Feb 2025 (Week 15)

* Please strictly adhere to the important dates above.
* * A kind reminder for every students that **penalty for late submission** could be applied.

Instructions:

Students need to form a group of **3** to 4 from the **SAME TUTORIAL** section. Students are required to produce and submit documentation on requirements, design and implementation (prototype) of a system. Project rubrics for Part I, Part II and Part III are detailed on pages 4, 5 and 6, respectively. The project titles are assigned based on tutorial sections, listed as follows:

Tutorial Section	Project Title	Key Processes
TT1L Ms. Zuriani	Personal Budget Tracker	Users (3 - 4 users), User Registration and Authentication, Financial Overview, Income Management, Expense Management, Budget Management, Profile Management.
TT2L Ms. Zuriani	E-Recipe Hub	Users (3 - 4 users), User Registration and Authentication, Recipe Management, Recipe Display, Recipe Display, Profile Management.
TT3L Ms. Zuriani	Personal Daily Planner	Users (3 - 4 users), User Registration and Authentication, Dashboard Management, Task and Event Management, Recurring Tasks/Events, Organization of Information, Profile Management.
TT4L Ms. Zuriani	Digital Museum	Users (3 - 4 users), User Registration and Authentication, Profile Management, Saving Favorite Exhibits, Personalized Recommendations, Managing Exhibits, Profile Management.
TT5L Ms Tengku	Monthly Fee Management System for Private Kindergarten	Users (3 - 4 users), User Registration and Authentication, User Profile Management, System Dashboard, Student Details Management, Parents Record Management, Payment Record Management, Report Generation, Settings and Configurations,

TT6L Dr Patrick	Hospital Patient Registration System	Users (3 - 4 users), User Registration and Authentication, Pre-Registration, Check-in, Insurance Verification, Medical History Collection, Appointment Scheduling
TT7L Ms Tengku	Real-Estate Property Management	Users (3 - 4 users), User Registration and Authentication, User Profile Management, Seller Details Management, Property Details Management, Viewer Inquiries Trend Tracking, Report Generation, Settings and Configurations
TT8L Ms Tengku	Record Management System for a Cat Sanctuary	Users (3 - 4 users), User Registration and Authentication, User Profile Management, Cat Details Management, Treatment and Medication Tracking, Appointment Scheduling, Report Generation, Settings and Configurations
TT9L Dr. Naveen	Online second-hand book buying and selling portal	Users (Buyer, Seller, other users), User Registration and Authentication, Book Management, Shopping Cart and Checkout, Order Management, Search Functionality, Feedback, Payment Processing,.
T10L Dr. Naveen	Billing System of Electricity	Users (Customer, Staff, other users), User Registration and Authentication, Bill Management, Transaction history, Manage customer Inquiries, Search Functionality, Feedback, Payment Processing,
T11L Dr. Naveen	Online Private Tutors Finder System	Users (Parents, Tutors, other users), User Registration and Authentication, Manage Tutors, Profile Management, Manage Booking, Communication Tools, Search Functionality, Feedback, Payment Processing,
T12L Dr. Loo Yim Ling	Online Petrol Delivery System	Admin, User, Driver modules. User and driver registration and authentication, comparison of prices based on petrol delivery distance and volume of petrol to be purchased, comparison of delivery time between available drivers, petrol and delivery service purchase authentication and verification, real-time tracking of delivery service.
T13L Dr Patrick	Insurance Company Policy System	Users (3 - 4 users), User Registration and Authentication, Policy Issuance, Premium Collection, Policy Renewal, Policy Amendment,Claims Management
T14L Dr Patrick	Mobile Tow Booking System	Admin, User, Insurance Agent modules. User and insurance agent registration, user and insurance agent authentication, vehicle insurance information database, free towing service eligibility check, tow charge based on distance after eligible towing distance to panel repair center, tow service booking confirmation, real-time tracking of tow vehicle arrival.
T15L Ms Tengku	Student Management System for Private Kindergarten	Users (3 - 4 users), User Registration and Authentication, User Profile Management, Student Details, Parents Record, Assessment Marks Tracking, Report Generation, Settings and Configurations
T16L Dr Patrick	Hawker Licensing System	Users (3 - 4 users), User Registration and Authentication, Application Submission, Document Verification, Site Inspection, Approval and Issuance, Compliance Monitoring, Enforcement and Penalties
T17L Ms. Rohana	Surgery online recovery monitoring system	Users (3 - 4 users), User Registration and Authentication, Role assigning page, Patients Data Update, Online Appoinment setting, Real time chatting – for fast consultation, wound monitoring / recovery monitoring, list of nearest clinic for 1st hand medical support. Archive for past patient/dismissed patient record. Reports.

T18L Ms. Rohana	Elderly Care Companion with Emergency Alerts	Users (3 - 4 users), User Registration and Authentication, Role assigning page, Application submission. Elderly Data Update, Guardian information, Tracking system, Basic Medical record data. Real time chatting – for fast consultation, Action need to be done as 1st hand support. List of nearest emegency contact numbers. Reports.
T19L Mr Shaari	University Parcel Management System	Users (3 - 4 users), User Registration and Authentication, User Profile Management, Parcel Management, Notification Management, Reporting
T20L Mr Shaari	University Aid Management System	Users (3 - 4 users), User Registration and Authentication, Aid Provision Management, Aid Request Management, Report Generation
T21L Ms. Nur Haifa	Music Sharing App	User able to login, store music, play music, and share the files online with other registered users who are using the application.
T23L Dr. Kairulanuar	Play-based Kindy Centre	Users (3 - 4 users), User Registration and Authentication, Register new parent and toddler, activities assigned to the toddler, date and hours spend per week, fortnight payment fees, progress made by the toddler, future tendency of toddler on visual, auditory and kinesthetic approach.
T24L Dr. Kairulanuar	Thrash and Treasure Platform	Users (3 - 4 users), User Registration and Authentication, Admin functions-users management, system performance, inventory management, Ordering-Processing, Tracking, Notifications, Stocking-Inventory Tracking, Restocking Alerts, Reporting Tools
T25L Mr. V Segaran	E-Learning Self-Service Platform	Users (3 - 4 users), User Registration and Authentication, profile management, course catalogue and enrolment, interactive learning materials, assessment and evaluation tools, feedback and support mechanisms, progress tracking and reporting, security and compliance features
T26L Mr. V Segaran	Online Medical Appointment Scheduling System	Users (3 - 4 users), User Registration and Authentication and access control, patient profile management, appointment booking system, appointment confirmation and notifications, appointment management for providers, report generation, security and compliance features

Note: Name your file in the following format:

Proj_Px_TTxL_Gx_stud1, stud2, stud3, stud4.pdf

Example:

Proj_Px_TT3L_G5_David, Edwin, Ella, Othman.pdf
Proj: obviously this is Project.
Px: Project part: PI,PII, or PIII.
TTxL: your tutorial class code: TT1L, TT2L, TT3L, etc.
Gx: your group number.
stud: group member's name (short one, EX:Studname: **David** Fong Seow Kee)

MULTIMEDIA UNIVERSITY

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PROJECT RUBRIC

Lecturer Name : _____ **Tutorial Section** : _____

Project Title : _____ **Presentation Date** : _____

Project Phase	Cognitive	Affective	Total
Project - Part 1 (20%)		NIL	
Project - Part II (20%)		NIL	
Project - Part III (30%)	NIL		
		Grand Total (70%)	

Signed by:

_____

(Lecturer's Name and Date)

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COGNITIVE AND AFFECTIVE ASSESSMENT

Mark Distribution	Submission Type	Descriptive Elements	Weightage	Rate (0-5)	Total (Weightage * Rate)
Cognitive and Affective Components	**Project – Part I** **Project Planning / Requirements Analysis (Documentation)**	1) System Overview describes users, scenario, problems, & use cases. Use case diagram and descriptions reflects System Overview details. The process flow is clear in each use case.	1		
		2) Class diagram/ER diagram have the main entities.	1		
		3) All processes are related and integrated. Additional functions and innovations for a more complete and usable software.	1		
		4) Quality and correctness of Gantt chart, diagrams and notations / Clearly and coherently written academic discourse.	1		
	Project –Part II Design / Architecture / Interfaces / Database (Documentation)	1) Database design matches requirements.	1		
		2) Architecture design shows the structure of the solution. Additional modules and innovations for a more complete and usable software.	1		
		3) Processing described in sequence diagrams, activity diagrams, state transition diagrams and interface design matches the requirements.	1		
		4) Quality and correctness of diagrams and notations / Clearly and coherently written academic discourse.	1		
	Project - Part III Development / Testing / Project Monitoring & Reporting (Documentation + Video + Presentation)	1) Quality of Prototype System/App etc.(Software Development Outcome)	1		
		2) Software Testing Procedures and Strategies (Testing)	1		
		3) Quality and correctness of diagrams and notations / Clearly and coherently written academic discourse.	1		
		4) Work Responsibility and Work Relations towards updated Requirements & Design - (Group Relations + Documentation)	1		
		5) Video - Screens & Explanation, Linking & Flow of system	1		
		6) Presentation - Clear Delivery of Ideas	1		
		Project I = Total (Weightage * Rate)		**Max (20%)**	
		Project II = Total (Weightage * Rate)		**Max (20%)**	
		Project III = Total (Weightage * Rate)		**Max (30%)**	
		GRAND TOTAL =		**Max (70%)**	

Note for Rate: 0-non existence, 1-very weak, 2-weak, 3-fair, 4-good, 5-excellent

COGNITIVE COMPONENT RUBRIC
PROJECT - PART I – PROJECT PLANNING / REQUIREMENTS ANALYSIS

Descriptive Elements	Very Weak (1)	Weak(2)	Fair(3)	Good(4)	Excellent(5)
1) System Overview describes users, scenario, problems, & use cases. Use case diagram and descriptions reflects System Overview details. The process flow is clear in each use case.	System Overview is very ambigious, unresonable users, unreasonable scenarios, and insufficient user cases. Use Case diagram and descriptions that solves only *5% of the problems*	System Overview is ambigious, number of users is doubful, unreasonable scenarios, and insufficient user cases. Use Case diagram and descriptions that solves *25% of the problems*	System Overview is almost clear, number of users, fair description of scenarios, and user cases. Use Case diagram and descriptions that solves *50% of the problems*	System Overview is clear, number of users, some good scenarios, and good user cases. Good Use Case diagram and descriptions that solves *80% of the problems*	System Overview is very clear, number of users, concrete scenarios, and concrete user cases. Comprehensive and complete Use Case diagram and descriptions that solves all problems. Very good self-explanatory diagrams.
2) Class diagram/ER diagram have the main entities	Class / ER diagrams have only *5% of the main entities*, diagrams are not understandable at all.	Class / ER diagrams have *25% of the main entities*, diagrams are not easy to understand.	Class / ER diagrams have *50% of the main entities*, self-explanatory diagrams.	Class / ER diagrams have *80% of the main entities*, good self-explanatory diagrams.	Class / ER diagrams have all the main entities, very good self-explanatory diagrams.
3) All processes are related and integrated. Additional functions and innovations for a more complete and usable software.	Processes are disparate and not integrated, basic functions with no innovations.	Processes are somewhat related but not well integrated, with little or no innovations.	Processes are integrated with some minor additional functions/innovation.	Processes are integrated with some additional useful functions/innovations.	Well integrated processes, with good additional functions and innovations for a complete and usable software.
4) Quality and correctness of Gantt chart, diagrams and notations / Clearly and coherently written academic discourse	Not able to draw Gantt chart, diagrams and write ideas clearly and coherently	Able to draw Gantt chart, diagrams and write ideas with limited clarify and coherence and require further improvements	Able to draw Gantt chart, diagrams and write ideas fairly coherently and clearly but require minor improvements	Able to draw Gantt chart, diagrams and write ideas coherently and clearly	Able to draw Gantt chart, diagrams and write ideas with excellent coherence and clarity

Note for Rate: 0 = non existence

COGNITIVE COMPONENT RUBRIC
PROJECT - PART II – DESIGN / ARCHITECTURE / INTERFACES / DATABASE

Descriptive Elements	Very Weak (1)	Weak(2)	Fair(3)	Good(4)	Excellent(5)
1) Database design matches requirements	Database design *matches 5%* of the requirements, diagrams/designs are not understandable at all.	Database design *matches 25 %* of the requirements, diagrams/designs are not easy to understand.	Database design *matches 50%* of the requirements, self-explanatory diagrams/designs.	Database design *matches 80%* of the requirements, good self-explanatory diagrams/designs.	Database design *matches all the requirements,* very good self-explanatory diagrams/designs.
2) Architecture design shows the structure of the solution. Additional modules and innovations for a more complete and usable software.	Architecture design shows *5% structure of the solutions,* basic modules with no innovations and diagrams/designs are not understandable at all.	Architecture design shows *25% structure of the solutions,* with little or no innovations.and diagrams/designs are not easy to understand.	Architecture design shows *50% structure of the solutions,* with some minor additional modules/innovation and self-explanatory diagrams/designs.	Architecture design shows *80% structure of the solutions,* with some additional useful modules/innovations and good self-explanatory diagrams/designs.	Architecture design shows *all the structure of the solutions,* with good additional modules and innovations, and very good self-explanatory diagrams/designs.
3) Processing described in sequence diagrams, activity diagrams, state transition diagrams and interface design matches the requirements.	Sequence diagrams, activity diagrams, state transition diagrams and interface design matches *5% of the requirements,* diagrams/designs are not understandable at all.	Sequence diagrams, activity diagrams, state transition diagrams and interface design matches *25% of the requirements,* diagrams/designs are not easy to understand.	Sequence diagrams, activity diagrams, state transition diagrams and interface design matches *50% of the requirements,* self-explanatory diagrams/designs.	Sequence diagrams, activity diagrams, state transition diagrams and interface design matches *80% of the requirements*, good self-explanatory diagrams/designs.	Sequence diagrams, activity diagrams, state transition diagrams and interface design matches *all the requirements,* very good self-explanatory diagrams/designs.
4) Quality and correctness of diagrams and notations / Clearly and coherently written academic discourse	Not able to draw diagrams and write ideas clearly and coherently	Able to draw diagrams and write ideas with limited clarify and coherence and require further improvements	Able to draw diagrams and write ideas fairly coherently and clearly but require minor improvements	Able to draw diagrams and write ideas coherently and clearly	Able to draw diagrams and write ideas with excellent coherence and clarity

Note for Rate: 0 = non existence

AFFECTIVE COMPONENT RUBRIC
PROJECT PART III – DEVELOPMENT / TESTING / PROJECT MONITORING & REPORTING

Descriptive Elements	Very Weak (1)	Weak(2)	Fair(3)	Good(4)	Excellent(5)
1) Quality of Prototype System/App etc.(Software Development Outcome)	Quality of Prototype System/App is very weak, and able to *demonstrate only 5%* of the required functionalities.	Quality of Prototype System/App is weak, and able to *demonstrate 25%* of the required functionalities.	Quality of Prototype System/App is fair, and able to *demonstrate 50%* of the required functionalities.	Quality of Prototype System/App is good, and able to *demonstrate 80%* of the required functionalities.	Quality of Prototype System/App is excellent, and able to *demonstrate all* the required functionalities.
2) Software Testing Procedures and Strategies (Testing)	Software Testing Procedures and Strategies is *demonstrated,* but the intent of finding *particular errors is very shallow/weak.*	Software Testing Procedures and Strategies is *demonstrated,* but the intent of *finding particular errors is shallow/weak.*	Software Testing Procedures and Strategies is *demonstrated, but in general, with unspecific intent* of finding errors.	Software Testing Procedures and Strategies is *demonstrated, but in general, with a specific* intent of finding particular errors.	Software Testing Procedures and Strategies is *demonstrated in detail, with a specific intent* of finding particular errors.
3) Quality and correctness of diagrams and notations. / Clearly and coherently written academic discourse.	Not able to draw diagrams and write ideas clearly and coherently	Able to draw diagrams and write ideas with limited clarify and coherence and require further improvements	Able to draw diagrams and write ideas fairly coherently and clearly but require minor improvements	Able to draw diagrams and write ideas coherently and clearly	Able to draw diagrams and write ideas with excellent coherence and clarity
4) Work Responsibility and Work Relations towards updated Requirements & Design - (Group Relations + Documentation)	Does not perform assigned tasks within the scope of work even with close supervision / Has a disharmonious relationship between group members resulting in poorly coordinated work	Perform assigned tasks within by the scope of work with close supervision / Has a less harmonious relationship between group members resulting in weakly coordinated work	Perform assigned tasks within by the scope of work and meets expectation / Has a satisfactory relationship between group members resulting in coordinated work at acceptable level	Perform assigned tasks within by the scope of work and exceeds expectation / Has a good relationship between group members resulting in good coordinated work	Perform assigned tasks beyond the scope of work and beyond expectation / Has a well-acknowledged relationship between group members resulting in excellent coordinated work
5) Video – Screens & Explanation, Linking & Flow of system	Video content has *5% of the screens, explanations, linking and flow* of the system, visual video contents are not understandable at all.	Video content has *25% of the screens, explanations, linking and flow* of the system, visual video contents are not easy to understand.	Video content has *50% of the screens, explanations, linking and flow* of the system, self explanatory visual video contents.	Video content has *80% of the screens, explanations, linking and flow* of the system, good clear and self explanatory visual video contents.	Video content has *all the screens, explanations, linking and flow* of the system, very clear and self explanatory visual video contents.
6) Presentation - Clear Delivery of Ideas	Not able to deliver ideas clearly and require major improvements	Able to deliver ideas and require further improvements	Able to deliver ideas fairly clearly and require minor improvements	Able to deliver ideas clearly	Able to deliver ideas with great clarity

Note for Rate: 0 = non existence

USEFUL LINKS FOR PROJECT

Use Case links

https://www.uml-diagrams.org/use-case-diagrams.html
https://www.uml-diagrams.org/use-case-diagrams-examples.html
https://www.lucidchart.com/pages/uml-use-case-diagram
https://www.smartdraw.com/use-case-diagram/
https://online.visual-paradigm.com/tutorials/use-case-diagram-tutorial/

video

https://www.youtube.com/watch?v=zid-MVo7M-E

Activity diagram links

https://www.uml-diagrams.org/activity-diagrams-examples.html
https://www.lucidchart.com/pages/uml-activity-diagram
https://www.lucidchart.com/pages/swimlane-diagram
https://www.smartdraw.com/activity-diagram/examples/
https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-activity-diagram/

video

https://www.youtube.com/watch?v=yAihwmczqsk

ER diagram links

https://www.smartdraw.com/entity-relationship-diagram/
https://www.smartdraw.com/entity-relationship-diagram/examples/
https://creately.com/blog/diagrams/er-diagrams-tutorial/
http://www.cs.uregina.ca/Links/class-info/215/erd/

video

https://www.youtube.com/watch?v=QpdhBUYk7Kk
https://www.youtube.com/watch?v=-CuY5ADwn24
https://www.youtube.com/watch?v=c0_9Y8QAstg
https://www.youtube.com/watch?v=-fQ-bRllhXc

Class diagrams links

https://www.lucidchart.com/pages/uml-class-diagram
https://www.tutorialspoint.com/uml/uml_component_diagram.htm
https://www.smartdraw.com/class-diagram/
https://www.ibm.com/developerworks/rational/library/content/RationalEdge/sep04/bell/index.html
https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-class-diagram/

videos

https://www.youtube.com/watch?v=UI6lqHOVHic
https://www.youtube.com/watch?v=xiUFTLIU-lw
https://www.youtube.com/watch?v=ZyST6OFtb7k

State transition diagram links

http://www.cs.unc.edu/~stotts/145/CRC/state.html
https://www.stickyminds.com/article/state-transition-diagrams

https://www.smartdraw.com/state-diagram/
https://www.lucidchart.com/pages/uml-state-machine-diagram

videos

https://www.youtube.com/watch?v=PF9QcYWIsVE
https://www.youtube.com/watch?v=OsmWASXE2IM

Sequence diagram links

https://www.lucidchart.com/pages/uml-sequence-diagram
https://www.smartdraw.com/sequence-diagram/
https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-sequence-diagram/
https://www.ibm.com/developerworks/rational/library/3101.html

videos

https://www.youtube.com/watch?v=XIQKt5Bs7II
https://www.youtube.com/watch?v=cxG-qWthxt4
https://www.youtube.com/watch?v=18_kVIQMavE