

Softwarica College of IT & E-Commerce
STW104KM Enterprise
Information Systems



Assignment Brief 2019/20

Module Title: Enterprise Information Systems	Ind/Group Ind	Cohort March 2019 Resit	Module Code: STW104KM
Coursework Title (e.g. CWK1) Assignment			Hand out date: Feb 2, 2020
Lecturer Achyut Timsina			Due date: March 2, 2020
Estimated Time (hrs): Word Limit*: (900-1100)	Coursework type: Individual / Practical		% of Module Mark 100%
Submission arrangement online via Softwarica Moodle: Upload through assignment links			
Mark and Feedback date: Within 3 weeks of final assignment submission			
Mark and Feedback method: Rubric marks and comments			

Module Learning Outcomes Assessed:

1. Demonstrate a clear understanding of organisational structures and an appreciation of the role of information technology in the support of business systems, including an awareness of the ethical, social and legal principles in the professional context.
2. Demonstrate an understanding of the methods and techniques involved in the design and implementation of various types of information systems with justification behind appropriate selection.
3. Apply appropriate methods for the initial analysis of information processing systems, developing a diagrammatic representation of system requirements using selected modelling techniques, supported by the use of a CASE tool.
4. Understand how enterprise systems foster stronger relationships with customers and suppliers and how these systems are widely used to enforce organisational structures and processes.

Task and Mark distribution:

1. Use Case Diagram (15%)
2. Use Case Scenario (10%)
3. Class Diagram (25%)
4. Activity Diagram (25%)
5. ER Diagram (25%)

Notes:

1. You are expected to use the [CUHarvard](#) referencing format. For support and advice on how this students can contact [Centre for Academic Writing \(CAW\)](#).
2. Please notify your registry course support team and module leader for disability support.
3. Any student requiring an extension or deferral should follow the university process as outlined [here](#).

4. The University cannot take responsibility for any coursework lost or corrupted on disks, laptops or personal computer. Students should therefore regularly back-up any work and are advised to save it on the University system.
5. If there are technical or performance issues that prevent students submitting coursework through the online coursework submission system on the day of a coursework deadline, an appropriate extension to the coursework submission deadline will be agreed. This extension will normally be 24 hours or the next working day if the deadline falls on a Friday or over the weekend period. This will be communicated via email and as a Softwarica Moodle announcement.

Assignment Brief

Project Tracker

An established software company in Nepal is looking for a software solution to effectively manage and track various projects under its roof. Central element of this system will be Project, which will be created by a user, typically a project manager. This user can later add one or more users to the project depending on the projects' tasks. A project will have series of tasks. For each task, following information need to be tracked:

- Task ID
- Estimated time required to complete the task
- Milestones if any
- Estimated start date
- Estimated end date
- Resources required if any
- User(s) who are mainly responsible for completing the task.

Each user has following information:

- Name
- Skill(s) that they posses

Users may serve in different capacities in different projects. Each project has following information:

- Project ID
- Project Name
- Project Description
- Project Manager (User)
- List of members assigned to the project
- Percentage of completed tasks in the project
- Completed Milestones
- Incomplete Milestones
- Estimated completion date

You have been hired as software engineering consultant. Based on these set of requirements, you are expected to build a suitable software solution for them.

Task1: Use case diagram (15%)

Draw a use case diagram showing all relevant use cases and actors for the system using UML notations. Use <<includes>> and <<extends>> where ever applicable.

Task 2: Use case documentation (10%)

Build a use case documentation for creating a task by the project manager. You should include brief description, list of actors, preconditions, basic flow, alternative flows and post conditions.

Task 3: Class diagram (25%)

Perform Natural Language Analysis to identify suitable classes for building this system. This class diagram should include attributes, methods, relationships and multiplicity of classes.

Task 4: Activity diagram (25%)

Draw an activity diagram for finding a user in the system, who is not yet assigned to any task and is currently free. You should depict the classes involved in this process in suitable swim lanes.

Task 5: Entity Relationship diagram (25%)

Draw an entity relationship diagram for this system. Identify all relevant entities, attributes, suitable attribute types, primary keys, foreign keys, and cardinalities between entities. This should be normalized up to 3rd Normal Form.

Marking Rubrics

T1: Use case diagram (10%)

0	1	2	3	4	5
Failed to submit the task within deadline. No use case diagram in the submitted assignment.	Only few use cases and actors were identified. Association actor and use cases are not depicted clearly.	Some of the use cases and actors identified. Produced diagram could be improved. All symbols used are not standard UML.	Many use cases and actors relevant in the system are identified. Produced diagram could be improved. All symbols are not in UML standard. Have not used <<includes>> and <<extends>>.	All relevant use cases and actors are identified. Produced diagram could be improved. Inconsistencies in the use of <<includes>> and <<extends>>.	Excellent use case diagram with all relevant actors and use cases identified and depicted clearly in agreement with UML standard. Use of <<include>> and <<extends>> is proper.

T2: Use case documentation (15%)

0	1	2	3	4	5
No use case documentation is submitted.	Only few of documentation criteria are listed and are not properly documented.	Some of the documentation criteria are listed. Many of them could be improved to make it more precise.	Some of the documentation criteria are listed. Some of them could be improved to make it more precise.	Good use case documentation with all criteria are listed. Few of the listed criteria are not properly documented or ambiguous.	Excellent use case documentation with all of criteria required are listed clearly. Does include brief description, list of actors (primary/secondary), Preconditions, Post conditions, normal flow, alternative flows are identified properly

T3: Class Diagram (25%)

0	1	2	3	4	5
No class diagram is present in the submitted class diagram	Only few relevant classes are depicted in the class diagram. No evidence of Natural Language Analysis is given.	No evidence of Natural Language Analysis is shown. Many relevant classes are identified with attributes and methods, but the choice of relationship and multiplicity could be improved.	Natural Language Analysis is applied. Its reporting could be improved. Many relevant classes are identified with attributes and methods, but the choice of relationship and multiplicity could be improved.	Natural Language Analysis is applied but could be improved on its documentation and reporting. Class diagram with clear depiction of class name, attributes, methods, visibility, relationships and multiplicity between classes.	Natural Language Analysis is properly applied and well documented. Excellent class diagram with clear depiction of class name, attributes, methods, visibility, relationships and multiplicity between classes.

T4: Activity diagram (25%)

0	1	2	3	4	5
No activity diagram	Few of high-level activities are shown. No Swim lanes.	Many of high-level activities are shown. Activities are not associated/divided based on classes responsibilities. No Swim lanes.	Most of lower level pertinent activities and their relationships are depicted properly. Responsibilities of classes are not shown in suitable swim lanes	All lower level activities and their relationships are identified and depicted. All involved classes are depicted, but the division of identified activities are not properly shown in swim lanes.	Excellent activity diagram. All lower level pertinent activities and their relationship are identified and depicted properly such that algorithmic implementation of the asked use case scenario could be derived easily. All involved classes are depicted, and associated activities are separated in swim lanes properly.

T5: Entity Relationship diagram (25%)

0	1	2	3	4	5
No ER diagram	ER diagram with only few relevant entities normalized up to 3NF. Few relevant attributes, their types, primary keys, foreign keys and cardinalities are identified and depicted. The process of normalization is not documented.	ER diagram with some relevant entities normalized up to 3NF. Some relevant attributes, their types, primary keys, foreign keys and cardinalities are identified and depicted. The process of normalization is not documented.	Good ER diagram with many relevant entities normalized up to 3NF. All relevant attributes, their types, primary keys, foreign keys and cardinalities are identified and depicted. The process of normalization is not documented.	Good ER diagram with many relevant entities normalized up to 3NF. All relevant attributes, their types, primary keys, foreign keys and cardinalities are identified and depicted. The process of normalization is also documented	Excellent ER diagram with all relevant entities normalized up to 3NF. All relevant attributes, their types, primary keys, foreign keys and cardinalities are identified and depicted clearly. The process of normalization is also justifiably documented.