# Mobile Application development ASSIGNMENT – mobile app design – E-Commerce App

Submission Date: 10 APR 2023 11:59 PM

Weightage: 50%

Create a new application for e-commerce transactions. The application should contain the following in minimum:

1. Splash Screen
2. Registration Screen
3. Login Screen
4. Main Menu (Dashboard) – List of items with Search options
5. Detail Page which shows the item details
6. Payment Gateway – Dummy gateway to do your purchase.
7. Orders Screen – Upon Submitting, page to show previous orders.

As a result of this assignment, you must come up with following set of documents.

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| Use-Case model | Describes the functional requirements. The names of most identified use cases, detailed analysis of the important use cases to be captured |

**Evaluation Rubric**

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| --- | --- | --- | --- |
| Document | Credit | Expectations | Student Checklist |
| Use case model | 10% | * Actors and their goals are explained well * Important use cases are identified * 4-5 use cases are narrated in detailed manner * Use case diagrams are used to summarize the use case modelling | * Various techniques used for identifying actors and their roles are used and described * Use cases are prioritized based on their importance * Fully dressed style is used while narrating the use cases * UML diagrams are used to summarize the model |

Now you must continue the same line and complete the system design for the project. For that purpose, you need to decide upon the architecture suitable for the proposed system, identifying and designing the various components involved in it, also needs to pay attention to the interconnection between these components. The systems behavior in response to the different use cases which are already identified and described textually needs to be captured with the help of the dynamic modelling. If there are certain flows which are complicated, or runs in parallel then drawing them explicitly will simplify the interpretation for the same. The logical representations of the system consisting of important entities involved in the operations and their collaborations with each other will help in static modelling of the system. The physical layout of the system under consideration will also give idea towards the hardware / software specifications and other resources (involving the human beings) to be considered for this effort. Along with that the data requirements of the proposed system are also needs to be identified.

As a result of this exercise you have to come up with following set of artifacts

|  |  |
| --- | --- |
| Logical Architecture | Describes the large scale organization of software components, subsystems or layers. |
| Static model | Describes the class diagrams which help in designing the definitions of packages, class names, attributes and method signatures of important entities involved in the system. |
| Dynamic model | Such as interaction diagrams, activity diagrams helps in design the logic, the behavior of code or the method bodies. |
| ER model | Captures the data requirements from the business domain, identifies the constraints related to the data items to be stored and also the relationship that exhibits between them. |

**Evaluation Rubric**

|  |  |  |  |
| --- | --- | --- | --- |
| Document | Credit | Expectations | Student Checklist |
| Logical Architecture | 10% | * Layers are identified * Layers responsibilities are detailed out * Package diagrams are used to describe the layering and components involved * Principle of separation of concern is followed | * Clear-cut separation of components is done citing out their responsibilities * Interaction between the components is clearly explained * UML tools are used to draw diagrams |
| Demo | 20% | * Showcase the Demo as part of a demo video | * It needs to be self-explanatory. |
| Neat Documentation | 10% | * The documentation should be clear and crisp | * It needs to contain all the needed items as per the project / application |

References:

1. [Feasibility Study](http://www.cs.cornell.edu/courses/cs5150/2015fa/slides/C1-feasibility.pdf)
2. [Usecase template by Cockburn](http://cis.bentley.edu/lwaguespack/CS360_Site/Downloads_files/Use%20Case%20Template%20%28Cockburn%29.pdf)
3. [Requirements by Craig Larman](https://sites.cs.ucsb.edu/~mikec/cs48/project/RequirementsLarman.pdf)
4. [System](http://www.cs.cornell.edu/courses/cs5150/2015fa/slides/C1-feasibility.pdf) [architecture](https://sites.cs.ucsb.edu/~mikec/cs48/project/ArchitectureLarman.pdf)
5. [Applying UML and patterns](https://personal.utdallas.edu/~chung/SP/applying-uml-and-patterns.pdf)
6. [ER model](https://opentextbc.ca/dbdesign01/chapter/chapter-8-entity-relationship-model/)
7. [ER diagrams](https://www.visual-paradigm.com/guide/data-modeling/what-is-entity-relationship-diagram/)

**Notes:**

* This is a take-home assignment to be carried out by each learner group independently.
* This is analysis and design exercise - requiring both the existing solutions to be explored and considered for design of new system.
* You may consult / discuss with other learners peripheral aspects such as the environment but not on solving the specific problems in terms of design or implementation.
* You have to write the appropriate report/s / documents in order to justify the analysis and use case modelling.
* Group together all the final documents needs to be submitted in doc or pdf format only having naming convention like - MAD\_Assignment\_<Group\_ID>.zip
* Provide appropriate justification when arriving at the conclusions.
* In case of any further queries, if those are generic once, learners are encouraged to use discussion forums, otherwise they can reach out to me at [bharani.k@wilp.bits-pilani.ac.in](mailto:bharani.k@wilp.bits-pilani.ac.in).
* Manage your efforts properly as there is no scope to shift the deadlines announced above.