



CSD 207 - Project

Marks: 20

Project Evaluation (Mark Distribution):

Difficulty – 5

System Designing – 5 (Includes Class, accessibility of properties and methods)

– You need to draw class diagram and mark the connection between them.

Coding with GUI, databases – 8

Robustness of your System – 2 (It should work for all test cases)

Two evaluations will be conducted:

- 16th November – 3 to 5 for Wednesday batch and 5 to 7 for Monday batch
- Final evaluation will be after end-sem exam – date will be announced later.

Project 1 - Online University

Modules:

There are mainly 3 modules in this software

- Student Module
- Instructor Module
- Admin Module
- Staff Module

In the Software we can register as a user and user has of three types, student, admin and manager. Admin has the power to add new user and can edit and delete a user. A student can register as user and can use visible for mark list and attendance his profile. The admin can add edit and delete marks for the student. All the users can see the marks. The manager can add and delete new student and staff performance. Admin adds course and instructor should be assigned based on qualification. Instructor can add Quiz for the students to evaluate them for a course. Every course should contain at least one Quiz module. You are required to design GUI and store data in database for persistent management of data. Designing of classes, properties and methods are up to your own creativity

Project 2 - Transformers – The Robot War

Players control Optimus Prime, Red Alert or Hot Shot, who are able to transform between robot and vehicle modes at the push of a button. The game revolves around the collection of Mini-cons, which can be equipped to the Transformer. These include weapons such as a pistol, support items such as glider wings, and stat-enhancement such as an armour boost, and with the exception of the latter, can be controlled using the shoulder buttons. Only four or fewer can be equipped. The 'R1' primary weapon will always be assigned, and if none (Mini-con) are chosen, the default rifle is used in its stead. There is a limit to what Mini-cons can be equipped with respect to the power game mechanic, with more powerful Mini-cons taking up a lot of space. The more of the same colour/suit Mini-cons equipped, the stronger one's character will be. This is referred to as Mini-con linking. For the most part, the Mini-cons do not change the aesthetics of the transformer. You can add variation to it by making it as a multi-player game where Megatron fights with optimus Prime to pick all the Mini-cons. Also, another variation is to maintain sessions, such that even if the game is stopped due to some circumstances, it can be continued later.

You are required to design the GUI and also store the player status in global database such that Players can view their score and ranking based on their scores.

Project 3 – Star Wars – The Death Star Game

This is an action game in which the player's character's weapons are the Force and a lightsaber. So, with the help of Force and lightsabers a player can kill enemies, find out threats using the Force etc. As the player progresses, the level of Force felt by the player increases or decreases based on the collected artifacts. If the Force is low, the player cannot feel the threat in his environment and if the Force is high, a player can even feel if there was a disturbance in Force in galaxy far far away. The game has a combo system for stringing lightsaber attacks and for combining lightsaber attacks with Force powers. Experience points earned by killing enemies and finding artifacts can be used to increase Starkiller's powers and traits. The player can also take help from Yoda and Obi-Wan Kenobi at regular intervals in form of clues. The number of clues increase and decrease with finding the artifacts. C3PO and R2D2 can come in rescue to the player whenever necessary. But limit the help to some counts. Finally the player wins if he finds the spot to destroy the Death Star.

Project 4 – Jurassic Park – Jungle Safari

You are required to simulate the Jurassic Park Safari. There will be 3 modes:

- Manager
- Visitors
- Safari

The manager can book jeep for safari, guest house, add dinosaurs, delete dinosaurs, take care of the embryos. A Visitor can check for the availability of the Safari and guest house as well as place request for the same. Once the request is received, the manager confirms the booking for Visitor. In the Safari mode, the visitors can play the Jurassic Park game. Some visitors can just view the dinosaurs in Safari mode and exit the Safari, while some visitors get to play a game of stealing a dinosaur egg. It is not easy to steal the egg and has to encounter many challenges of facing different dinosaur. The visitors are either in jeep or on foot depending on the scenario. They also have weapons like rifles and bombs to help kill the dinosaurs. There can also be many visitors in a group making it a multiplayer game, where each visitor tries to rescue the member of his group. A group wins if at least one member is successful in stealing the egg. You need to place clues for where the egg is. Design the GUI for game and also maintain a database for storing the details of visitors and booking of the guest house.

Project 5 – Online Crime Investigation System

You are required to assist RAW in maintaining the list of criminals, prime suspects for terror attacks, encrypting and decrypting of messages sent between different departments. As the details of RAW are highly secure, it is important that you encrypt the data before storing them in database. While retrieving the data, decrypt and display in the portal. Performing the encryption and decryption is up to your discretion, but RSA and AES algorithms can be used. In case RAW detects a possible terror strike, it needs to be reported to different police departments of that area. For example, in case of suspected strike in Delhi, a message has to be sent to different police departments in Delhi in encrypted manner. An approver or helper of RAW can help in detecting possible attacks in different parts of the country and can send message to RAW which is in encrypted manner. RAW need to decrypt for viewing the message.

There can be 3 modules.

- Admin Module
- User Module
- Executive Module

An admin can add, edit and delete police departments, criminal records and suspected terrorists data in database. Police departments should contain details like who is the SP, constables and location for sending and receiving text or file messages. If you would like to add, you can also store images. For increasing the robustness, you can also compare images of prime suspects for RAW to check if the criminal records matches. User can view the details of police departments and criminal records. An executive can view encrypted messages sent by the approver or helper. Also send messages to different police departments.

You are required to develop GUI for viewing and sending messages, storing, editing and deleting records. Also, a database for storing the data.

Projects based on Research Papers

Following are some papers which you can implement. As you might not be aware of client-server programming in Java, you can simply simulate the network by creating different instances of Node Class and passing information between them.

Project 6 - Traffic Analysis & Modelling in Wireless Sensor Networks and Their Applications on Network Optimization and Anomaly Detection

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.850.5961&rep=rep1&type=pdf>

Project 7 – Implementation of Queue Batch Algorithm for collaborative key agreement.

http://www.cse.cuhk.edu.hk/~cslui/PUBLICATION/ton_key_tech.pdf

Project 8 - Simulation of Handoff Techniques in Mobile Cellular Networks

<http://cwi.unik.no/images/Simulation-Handoff-Techniques.pdf>