Each group needs to prepare either; <mark>a) an animation</mark>, <mark>b) visualization</mark>, or <mark>c) simulation through programming of an algorithms</mark> in the operating system covered throughout the course. The purpose of the project is to enhance comprehension of the algorithm for the group members as well as those who view the project. The list of topics is shown in **Table 1** below.

The group (**maximum members are 4**) needs **to propose a real-world application** as a case study like hotel reservation, flight ticket booking, cinema ticket booking, etc. or any ideas that you may find suitable and reasonable. You may choose a suitable data set to simulate or to visualize the assigned operating system concept or algorithm.

Students may use

a) any animation / presentation tools such as *Adobe Animate*, *PowerPoint, Prezi, video editors, etc.*

    OR

b) any programming language for coding the simulation or visualization the algorithm implementation*.*

<mark>Table 1 Topics</mark>

No.	Topics/Area	Group
1.	Preemptive Scheduling – SRT & Round Robin	
2.	Non-Preemptive Scheduling – SJF, Priority Scheduling	
3.	Fixed & Dynamic Memory Management – Next Fit & Worst Fit	
4.	Synchronization use Peterson Algorithm	
5.	Synchronization use Semaphore	
6.	Paging Concept	
7.	Virtual Memory Management - Replacement Algorithm: FIFO, LRU	
8.	Virtual Memory Management - Replacement Algorithm: OPT, LRU	
9.	Free Space management	
10.	File Implementation – Linked and Indexed Allocation	
11.	Deadlock – RAG, Deadlock avoidance – safety algorithm	
12.	Deadlock - resource request algorithm, detection algorithm	

13.	Process Scheduling – Round Robin, Multi-Level Queue	
14.	Disc Scheduling – Look, CLook, SCAN, CScan	

Budget your time wisely for the team project. Plan a time-table for your project and take pains to observe the deadlines.

Proposal Submission: (4-Nov-2024)

1. *the executive summary and project flowchart*

Final submission:(in Week 14)

1. *Link name of Demo Video:* YOUTUBE
2. *Project Report.*

PRESENTATION GUIDELINES

Plan to give a **10 … 15 - minutes** of presentation, with time for presentation and discussion. Presentations should be self-contained, and should be clear and precise. Briefly introduce the topic, how the group collaborates in conducting the project and execute your animation / visualization / simulation and explain.

ASSESSMENT

The project contributes 15% to course grade. Assessment is done in two aspects:

1. Implementation (10)
   i. Correctness (3)
   ii. Completeness (3)
   iii. Choice of data input (1)
   iv. Creativity (3)

2. Presentation (10) – contribute 5% to course grade
   i. Organization (3)
   ii. Presentation (4)
   iii. Collaboration (3)

Presentation Rubric

Criteria\Marks	1	2	3	4
Collaboration Did everyone contribute to the presentation? Did everyone seem well versed in the material?	The teammates never worked from others' ideas. It seems as though only a few people worked on the presentation.	The teammates sometimes worked from others' ideas. However it seems as though certain people did not do as much work as others.	The teammates worked from others' ideas most of the time. And it seems like every did some work, but some people are carrying the presentation.	The teammates always worked from others' ideas. It was evident that all of the group members contributed equally to the presentation.
Organization Was the Presentation well organized and easy to follow?	The presentation lacked organization and had little evidence of preparation.	There were minimal signs of organization or preparation.	The presentation had organizing ideas but could have been much stronger with better preparation.	The presentation was well organized, well prepared and easy to follow.
Presentation Did the presenters Speak clearly? Did the engage the audience? Was it obvious the material had been rehearsed?	Presenters were unconfident and demonstrated little evidence of planning prior to presentation.	Presenters were not consistent with the level of confidence/preparedness they showed the classroom but had some strong moments.	Presenters were Occasionally confident with their presentation however the presentation was not as engaging as it could have been for the class.	Presenters were all very confident in delivery and they did an excellent job of engaging the class. Preparation is very evident.

GENERAL GUIDELINES

1. Check your animation or programming if it portrays the right concept.
2. Check grammar and spelling errors.
3. Do not plagiarize

NOTE: Plagiarism is stealing or passing off the ideas or words of another as one's own -- using material without crediting the source. This is prohibited behavior and will not be tolerated.