Getting Started **2**
- Textbook 2
- Syllabus 2
- Grading 2
- TAs 2

Group Members and Project Preference [Due on 16/01/2024] **3**
- Academics 3
- Travel 3
- E-commerce 3
- Social Media 3
- Healthcare 3

[30 Points] Software Requirement Specification [Due on 28/01/2024] **4**

[30 Points] Software Architecture [Due on 15/02/2024] **5**

Getting Started

Textbook

An Integrated Approach to Software Engineering, Third Edition by Pankaj Jalote
https://www.cse.iitk.ac.in/users/pankajjalote/OldSEbookSite/

Syllabus

- ★ Introduction to Software Engineering
- ★ Software Processes
- ★ Requirements Engineering
- ★ Software Architecture
- ★ Planning and Design
- ★ Coding
- ★ Testing
- ★ Software Project Management
- ★ Advanced topics like Formal Methods in Software Engineering (Optional)

Grading

Exam - 30%

Project - 70% (Multiple phase evaluation. To be done in groups of 4)

TAs

Suryamukhi K <cs17m19p100001@iith.ac.in>,

RUSHIKESH KANUBHAI VAISHNAV <cs22mtech11001@iith.ac.in>,
AKASH K S <cs22mtech11012@iith.ac.in>,
HARIKRISHNAN V <cs23mtech11008@iith.ac.in>,
PUNITH KUMAR PULICHARLA <CS23MTECH11032@iith.ac.in>

Group Members and Project Preference [Due on 16/01/2024]

Please form groups of 3 or 4 students. Enter your group members and project preference here.

Academics

- ★ Course Registration and Grade Management System (A01)
- ★ Teaching Assistant Management System (A02)
- ★ Library Book Management System (A03)
- ★ Staff Recruitment System (A04)
- ★ Hostel Room Management System (A05)
- ★ Leave Management System for Staff and Students (A06)
- ★ Publication Management System (A07)

Travel

- ★ Carpooling Software (T01)
- ★ Cab Fleet Management System (T02)
- ★ Navigation System (T03)
- ★ Bus Tracking System (T04)

E-commerce

- ★ E-commerce Website (E.g. Amazon, Flipkart) (E01)
- ★ Free Classified Website (E.g. OLX) (E02)
- ★ Auction System (E03)
- ★ Hotel Room Booking System (E04)
- ★ Product Review Management System (E.g. Amazon reviews) (E05)
- ★ Hotel Reviews Management System (E06)

Social Media

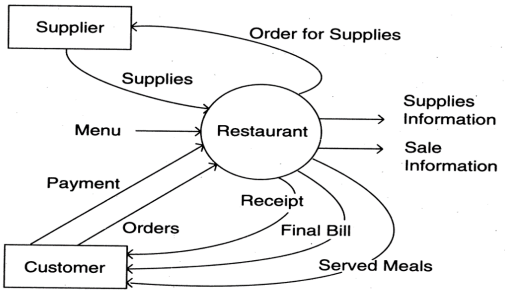
- ★ Photo management system (E.g. Google photos) (SM01)
- ★ Online social networking system (E.g. Facebook, Twitter, LinkedIn) (SM02)

Healthcare

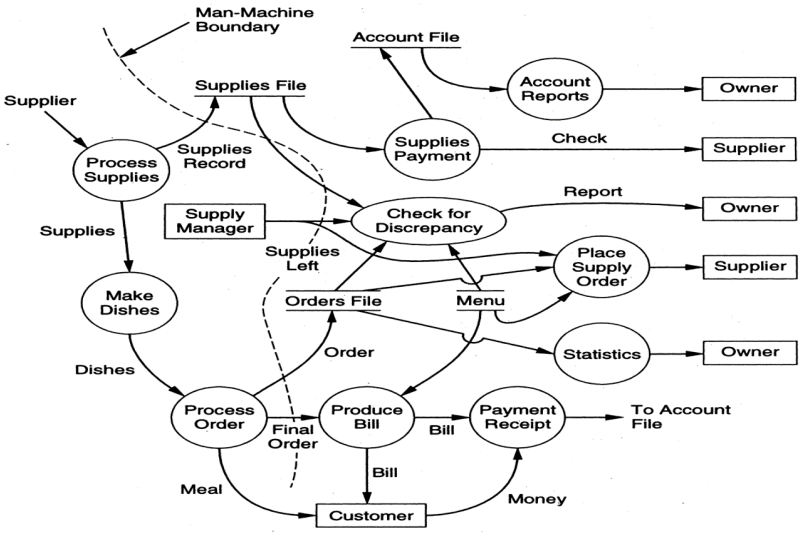
- ★ Electronic Health Record Management System (H01)
- ★ Medical Reports Management System (H02)
- ★ Social Media for Healthcare Professionals (H03)
- ★ Social Media for Medical Question Answers (H04)

[30 Points] Software Requirement Specification [Due on 28/01/2024]

- Only one member of the group should do the submission. It should have two parts: Software Requirement Analysis (SRA) and Software Requirement Specification (SRS). Submit them as “SRA Group XY.pdf” and “SRS Group XY.pdf” (E.g. SRA Group 01.pdf, SRS Group 01.pdf).
- In SRA you need to submit: (a) context diagram, (b) Two possible DFDs of the proposed system along with the man-machine boundary (if any), (c) expected size of your code based on function point analysis. You need to give a brief description of your DFDs. You need to state which DFD you plan to use and why it is better than the other. Include details of how exactly you did the function point analysis.
- Here are a few sample SRS.



Context Diagram



Sample DFD with man-machine boundary

[30 Points] Software Architecture [Due on 15/02/2024]

Submit an architecture design document for your software. Only one member of the group should do the submission. Please refer to Ch. 4 slides 51-54 to see what to include in your architecture design document. Your report must contain the following:

- At least two possible architectures (i.e., component and connector views) of your proposed system. Both the architectures should be of good quality. If your baseline architecture is of low quality, then marks will be deducted.
- Which architecture style, taught in the class you plan to use (or extend) in your project? Give justifications.
- Use ATAM to analyze and compare the proposed architectures. Give justification of which architecture is the best.
- Evaluate the non-functional attributes, as taught in the class (see slide 55-67).
- You can see some samples here. These samples are not ideal and are just for illustration. You need to create the document based on what was covered in the class.
- Submit it as “SA Group XY.pdf” (E.g. SA Group 01.pdf, SA Group 11.pdf).

No extension for the deadline will be given. We will deduct 10% marks of the assignment for each day of delay after the deadline.