



**DEPT. Of NWC**

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	1
<b>Title of Experiment</b>	To identify the Software Project, Create Business Case, Arrive at a Problem Statement
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Aditya A R, Adhin Jibil, Shanthosh Sivan
<b>Register Number</b>	RA2011030010052, RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	17-03-2022

**Mark Split Up**

<b>S.No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

**Aim**

To Frame a project team, analyze and identify a Software project. To create a business case and Arrive at a Problem Statement for the <title of the project>

**Team Members:**

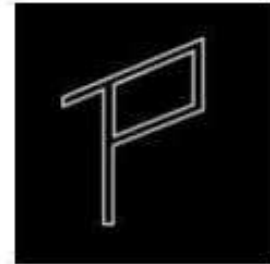
Sl No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Lead
2	RA2011030010031	Adhin Jibil	Member
3	RA2011030010044	S Shanthosh Sivan	Member

**Project Title:** Plagiarism Terminator

**Project Description**

## BUSINESS CASE

DATE	17-03-2022
SUBMITTED BY	Aditya A R, Adhir Jibil, Shanthosh Sivan
TITLE	Plagiarism Terminator



### THE PROJECT

- Plagiarism is a widespread issue that has caused trouble at various levels, from corporates to schools.
- A check on plagiarism before publicizing the work helps from getting into deep troubles.
- This project aims to help people in various fields to check any work for plagiarism and make necessary changes if needed.

### THE HISTORY

- The internet has a few websites that offer the services of checking for plagiarism like 'Grammarly' and 'Dupli Checker'
- Most of these websites are either not quite efficient or are paid applications.

### LIMITATIONS

- Lack of special training

### APPROACH

Skills in computing languages:

- Python
- HTML
- CSS
- JavaScript

### BENEFITS

- This project can avoid potential copyright infringement cases by comparing the work with other publications and void all the plagiarism.
- It can also help find if a work is a copy of another and what part of it has been copied.

**Result**

Thus, the project team was formed, the project is described, the business case was prepared and the problem statement was arrived.



**Department of Networking and Communications**

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	2
<b>Title of Experiment</b>	Identification of Process Methodology and Stakeholder Description
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Aditya A R, Adhin Jibil, Shanthosh Sivan
<b>Register Number</b>	RA2011030010052, RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	24/03/22

**Mark Split Up**

<b>S.No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

## Aim

To identify the appropriate Process Model for the project and prepare Stakeholder and User Description.

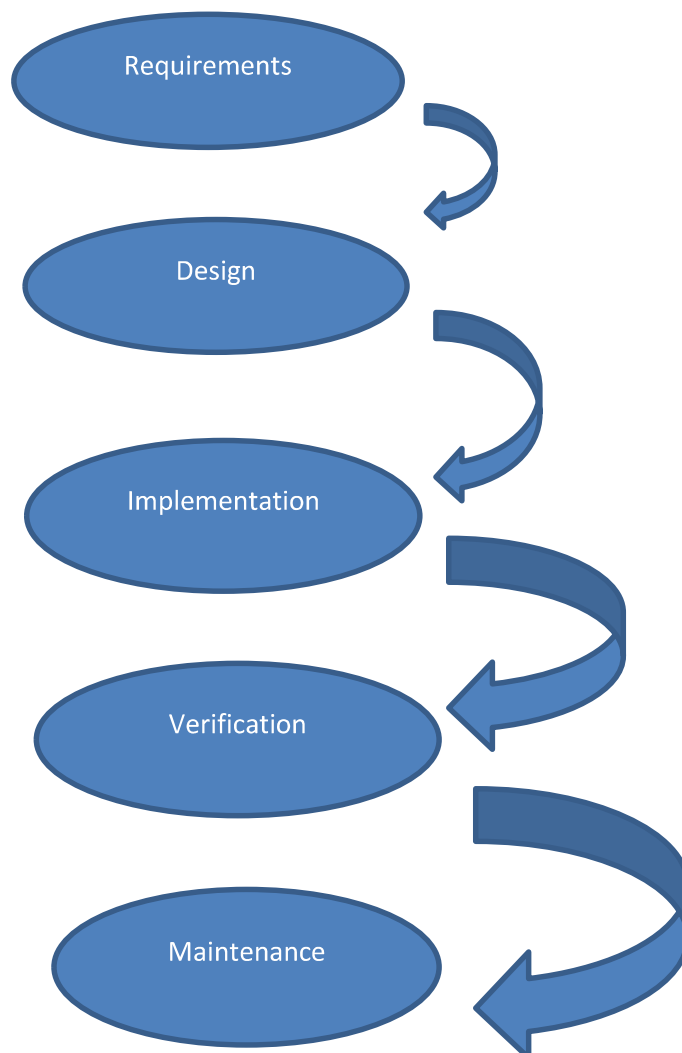
## Team Members:

Sl No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep/Member
2	RA2011030010031	Adhin Jibil	Member
3	RA2011030010044	Shanthosh Sivan	Member

## Project Title:

### Selection of Methodology

- **Waterfall Methodology**



## Requirements:



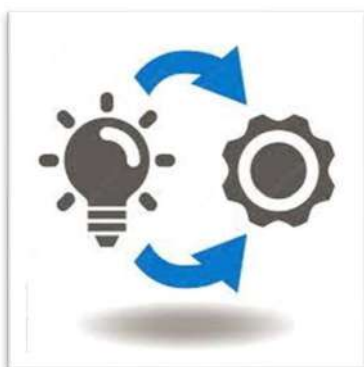
If possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.

## System Design:

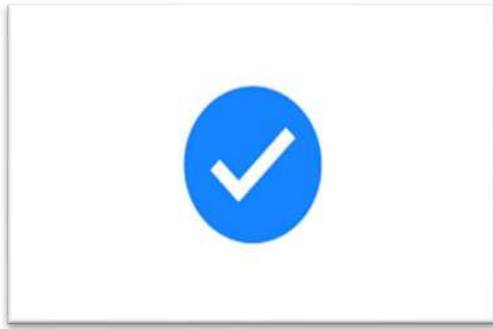


	Minimum	Recommended
Processor	1.5 GHz	2.5 GHz
Memory (RAM)	2 GB	4 GB
Available disk storage	50 MB	100 MB
Available disk storage	4.5.1	4.7.1
Internet Connection	512 Kbps	1 Mbps

## Implementation:



With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

**Verification:**

All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

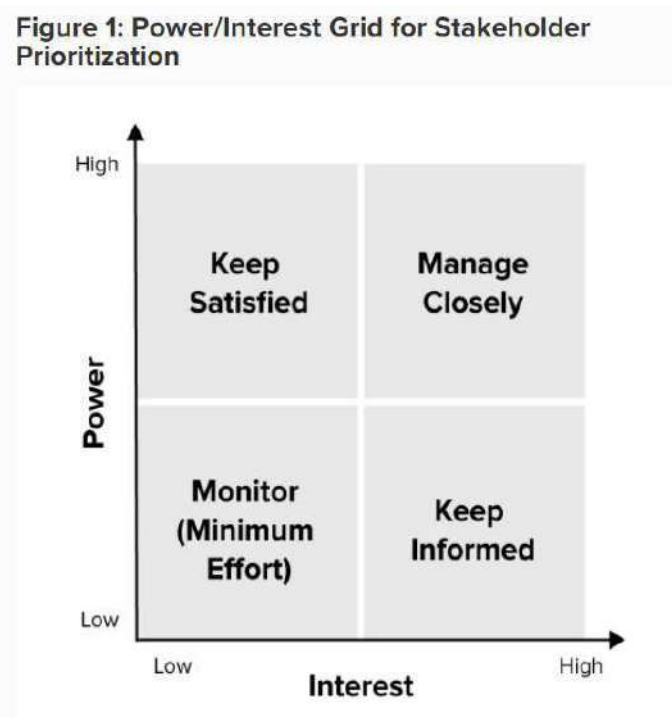
**Maintenance:**

There are some issues which come up in the client environment. To fix those issues, patches are released. Also to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment.



Incorporate information to below table regarding stakeholders of the project [Make use of below examples]

Stakeholder Name	Activity/ Area /Phase	Interest	Influence	Priority (High/ Medium/ Low)
Owner	Accomplish targets	High	High	1
Web Developer	Programming	High	High	2
Pen Tester	Testing	Med	Med	3
Project Manager	Planning and Organizing	High	Med	2
End User	User	Low	Med	3



Result

Thus the Project Methodology was identified and the stakeholders were described.



**Department Of Networking and Communications**

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	3
<b>Title of Experiment</b>	System, Functional and Non-Functional Requirements of the Project
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Aditya A R, Adhin Jibil, Shanthosh Sivan S
<b>Register Number</b>	RA2011030010052 RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	30.3.2022

**Mark Split Up**

<b>S.No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

**Aim**

To identify the system, functional and non-functional requirements for the project.

**Team Members:**

S No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep/Member
2	RA2011030010031	Adhin Jibil	Member
3	RA2011030010044	Shanthosh Sivan S	Member

**Project Title: Plagiarism Terminator****System Requirements**

- OS: Windows 8 or later/macOS Sierra 10.12 or later/ 64-bit Ubuntu 14.04+, Android or iOS.
- Processor: Intel, Snapdragon
- Memory: 2 GB minimum, 4 GB recommended
- Internet connection
- Any Web Browser – Chrome, Safari, Firefox, etc.,

**Functional Requirements**

- Easy to use UI
- Accessible on various devices
- Capable for repeated usage
- Ability to compare one document with several other documents.

**Non-Functional Requirements**

- Reliability
- Speed in processing
- High Availability

**Result**

Thus the requirements were identified and accordingly described.



## Department of Networking and Communications

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	4
<b>Title of Experiment</b>	Prepare Project Plan based on scope, Calculate Project effort based on resources and Job roles and responsibilities
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Aditya A R, Adhin Jibil, Shanthosh Sivan S
<b>Register Number</b>	RA2011030010052 RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	6.4.2022

### Mark Split Up

<b>S.No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

## **Aim**

To Prepare Project Plan based on scope, Calculate Project effort based on resources, Find Job roles and responsibilities

## **Team Members:**

Sl No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep/Member
2	RA2011030010031	Adhin Jibil	Member
3	RA2011030010044	Shanthosh Sivan S	Member

## 1. Project Management Plan

### **Schedule Management:**

#### **1) Defining Milestones**

To develop front-end of the website	7 days
To develop back-end of the website	7 days
To integrate the font-end and back-end	2 days
To design UI/UX for the website	5 days
To incorporate the UI in the website	5 days
To test the application and fix the flaws	7 days
Final rollout for customers	10 days

#### **2) Schedule Control**

- We have to regularly monitor the status of the task.
- If a task is not achieved within the timeframe extra deployment of the workforce may be required in such scenarios.
- We have to update schedules in order to achieve the timeline goals.

## Stakeholders :

Stakeholder Name	Activity/ Area /Phase	Interest	Influence	Priority (High/ Medium/ Low)
Owner	Accomplish targets	High	High	1
Web Developer	Programming	Med	High	3
Tester	Testing	Med	High	2
Project Manager	Planning and Organizing	High	Med	2
End User	User	Med	Med	1

## Cost Management :

### 2. Estimation

#### 2.1. Effort and Cost Estimation

Activity Description	Sub-Task	Sub-Task Description	Effort (in hours)	Cost in INR
Frontend Development	E1R1A1T1 (Effort-Requirement-Activity-Task)	Designing the UI	4	2000
	E1R1A1T2	interactive and user friendly interface	2	1000
Backend Development	E1R1A1T3	Dynamic Code according to the need, implemented in any language	8	4000
Marketing	E3RA3T1	Finding potential investors	5	2500
Project Coordination	E4R4A4T1	Coordinating team members and ensuring smooth workflow	10	5000

Effort (hr)	Cost (INR)
1	500

## 2.2. Infrastructure/Resource Cost [CapEx]

< OneTime Infra requirements >

Infrastructure Requirement	Qty	Cost per qty	Cost per item
Workplace	1	100000	100000
Pc's	4	60000	240000
Wifi	1	3500	3500
server	1	75000	75000

## 2.3 Maintenance and Support Cost [OpEx]

Category	Details	Qty	Cost per qty per annum	Cost per item
People	Network, System, Middleware. Developer , Tester	3	2,000,000	6,000,000
License	Operating System Database Middleware IDE	10	10000	100,000
Infrastructures	Server, Storage and Network	10	10000	200,000

## 3. Project Team Formation

### 3.1. Identification Team members

Name	Role	Responsibilities
Aditya	Key Business User (Product Owner)	Provide clear business and user requirements
Shanthosh	Project Manager	Manage the project
Adhin	Business Analyst	Discuss and Document Requirements
Aditya	Technical Lead	Design the end-to-end architecture
Adhin	UX Designer	Design the user experience
Adhin	Frontend Developer	Develop user interface
Aditya, Shanthosh	Backend Developer	Design, Develop and Unit Test Services/API/DB
Shanthosh	Tester	Define Test Cases and Perform Testing

### 3.2. Responsibility Assignment Matrix

RACI Matrix	Team Members			
Activity	Name (BA)	Name (Developer)	Name (Project Manager)	Key Business User
User Requirement Documentation	A	C/I	I	R
	Aditya	All the members	Shanthosh Sivan	Adhin

A	Accountable
R	Responsible
C	Consult
I	Inform

Result:

Thus, the Project Plan was documented successfully.





## Department of Networking and Communications

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**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	5
<b>Title of Experiment</b>	Prepare Work breakdown structure, Timeline chart, Risk identification table
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Adhin Jibil X Shanthosh Sivan S
<b>Register Number</b>	RA2011030010052 RA2011030010031 RA2011030010044
<b>Date of Experiment</b>	6.4.2022

### Mark Split Up

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1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

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**Aim**

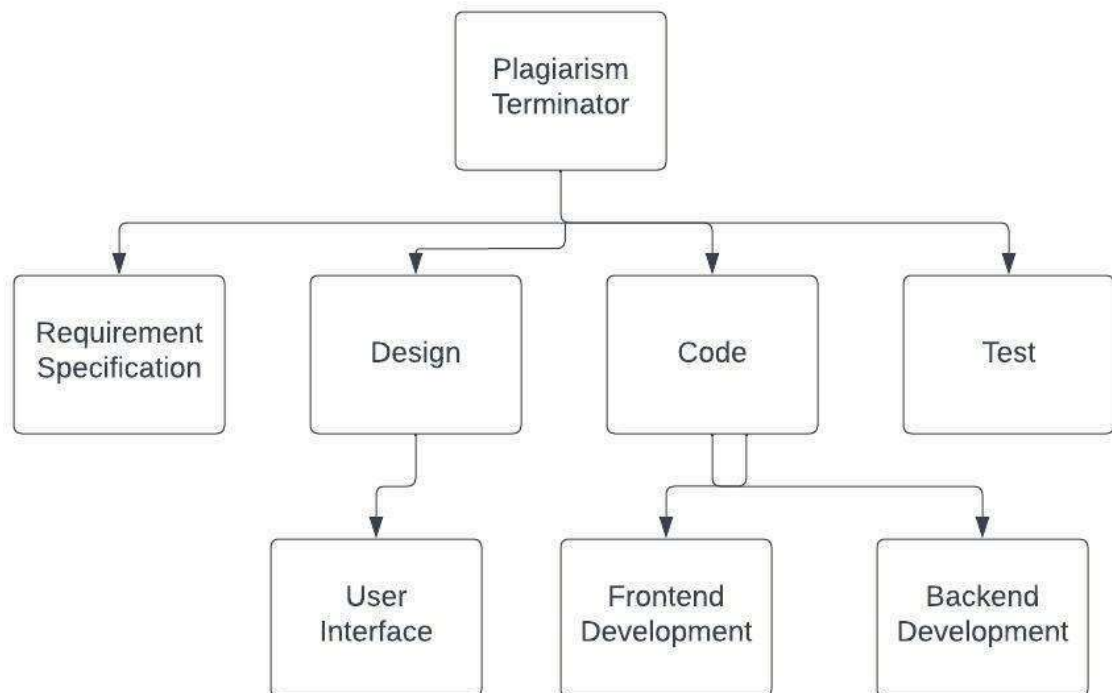
To Prepare Work breakdown structure, Timeline chart and Risk identification table

**Team Members:**

Sl No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep
2	RA2011030010031	Adhin Jibil X	Member
3	RA2011030010044	Shanthosh Sivan S	Member

<Incorporate WBS, Timeline chart and Risk table>

**Work Breakdown Structure :**



## GANTT CHART



### Risk Table:

Risk summary	Risk probability ( %)	Mitigation
System malfunction	25%	Periodic maintenance and testing and preparing the damaged part
Member absence	10%	Schedule and work accordingly
Communication problem between members	20%	Perform timely meetings ,good communication
Loss of Data	20%	Backup
Unexpected results	5%	Perform requirement analysis carefully right from the beginning

Result:

Thus, the work breakdown structure with timeline chart and risk table were formulated successfully.



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**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	6
<b>Title of Experiment</b>	Design a System Architecture, Use Case and Class Diagram
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Adhin Jibil X Shanthosh Sivan S
<b>Register Number</b>	RA2011030010052 RA2011030010031 RA2011030010044
<b>Date of Experiment</b>	

## Mark Split Up

<b>S.No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

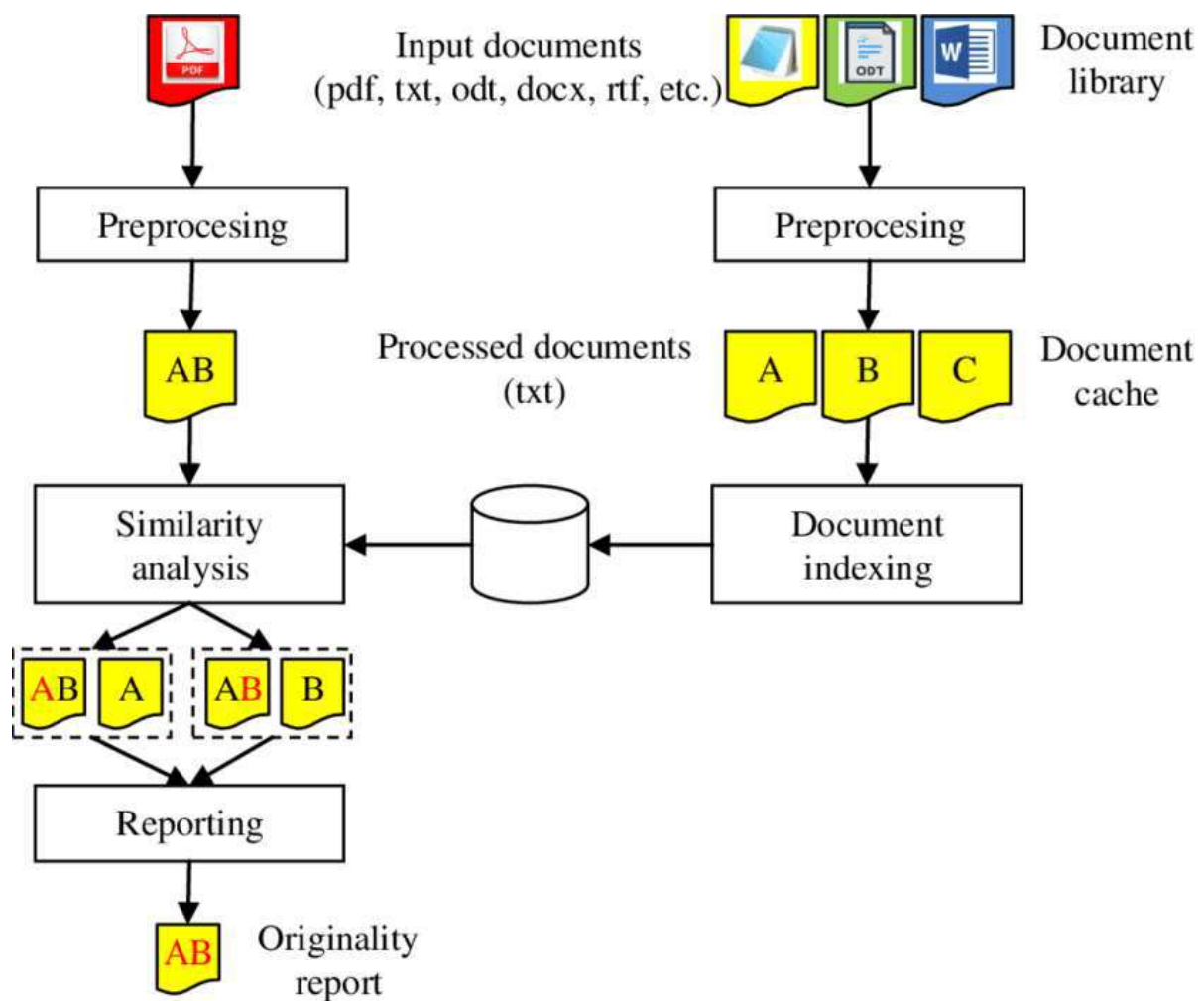
## Aim

To Design a System Architecture, Use case and Class Diagram

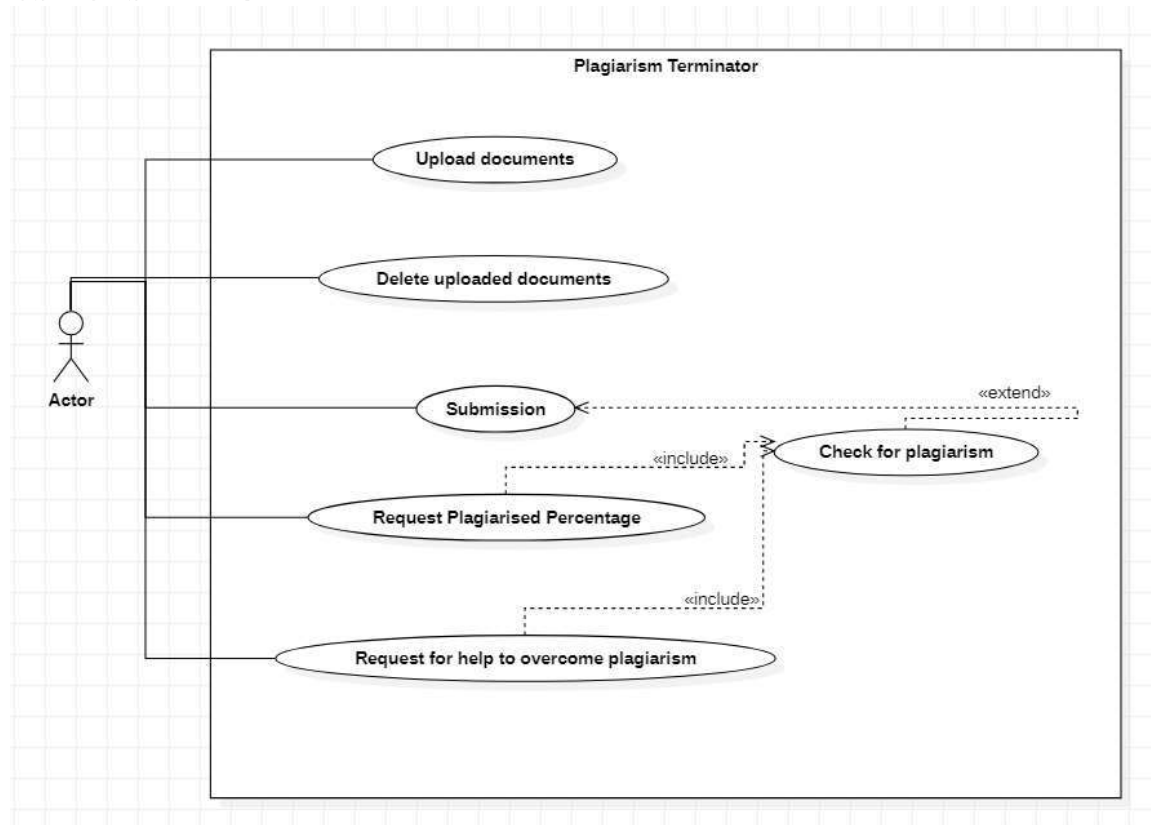
## Team Members:

SI No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep
2	RA2011030010031	Adhin Jibil X	Member
3	RA2011030010044	Shanthosh Sivan S	Member

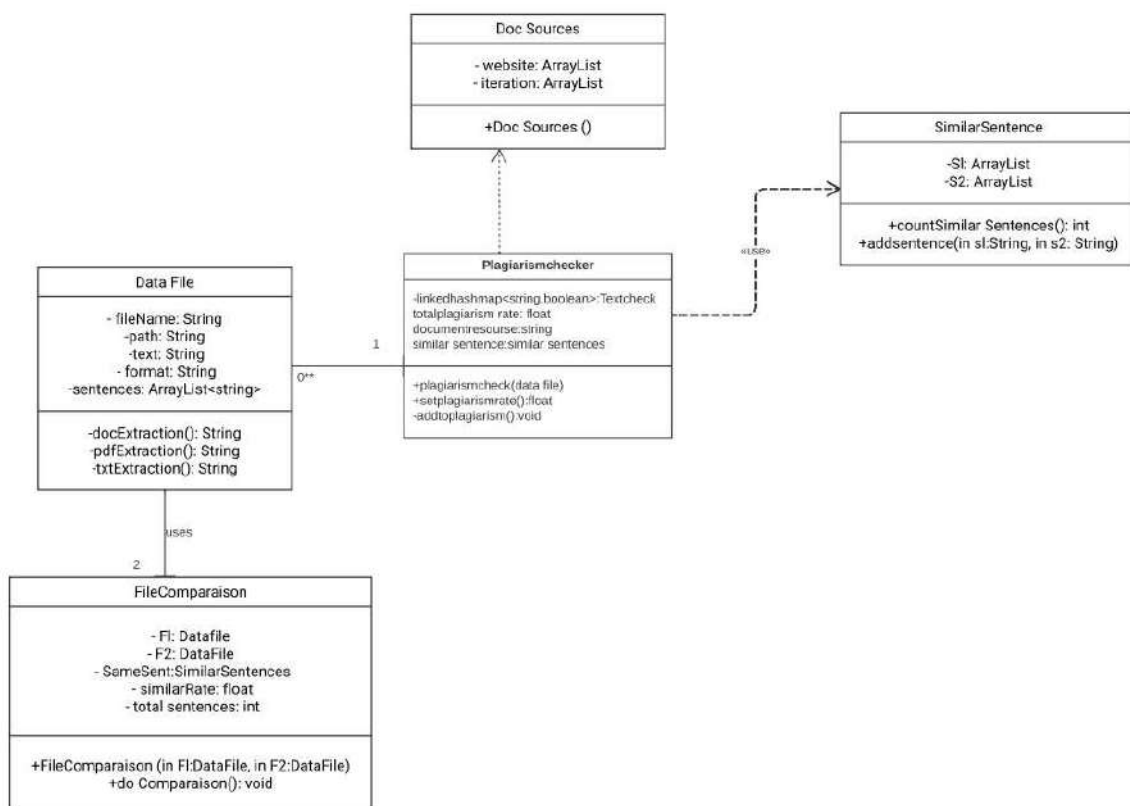
## SYSTEM ARCHITECTURE



## USE CASE DIAGRAM



## CLASS DIAGRAM



Result:

Thus, the system architecture, use case and class diagram created successfully.



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	7
<b>Title of Experiment</b>	Design a Entity relationship diagram
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Adhin Jibil Shanthosh Sivan
<b>Register Number</b>	RA2011030010052 ,RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	6.5.2022

### Mark Split Up

<b>S. No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

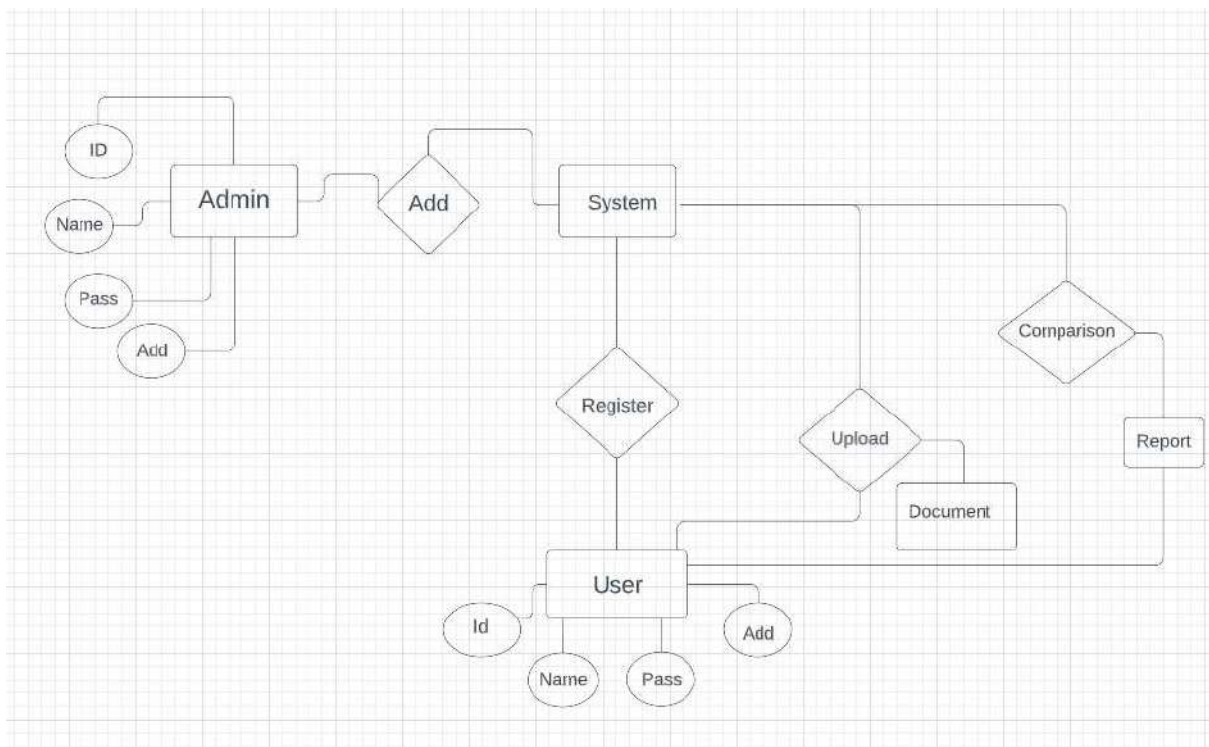
## Aim

To create the Entity Relationship Diagram

## Team Members:

S No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep
2	RA2011030010031	Adhin Jibil X	Member
3	RA2011030010044	Shanthosh Sivan S	Member

<ER Diagram >



## Result:

Thus, the entity-relationship diagram was created successfully.



## **\*/ ER Diagram, Notation and Example**

### **What is ER Diagram?**

- ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.
- ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.
- At first look, an ER diagram looks very similar to the flowchart. However, ER Diagram includes many specialized symbols, and its meanings make this model unique. The purpose of ER Diagram is to represent the entity framework infrastructure.

### **What is ER Model?**

- ER Model stands for Entity Relationship Model is a high-level conceptual data model diagram. ER model helps to systematically analyze data requirements to produce a well-designed database.
- ER Model represents real-world entities and the relationships between them. Creating an ER Model in DBMS is considered as a best practice before implementing your database.
- ER Modeling helps you to analyze data requirements systematically to produce a well-designed database. So, it is considered a best practice to complete ER modeling before implementing your database.

### **Why use ER Diagrams?**

Here, are prime reasons for using the ER Diagram

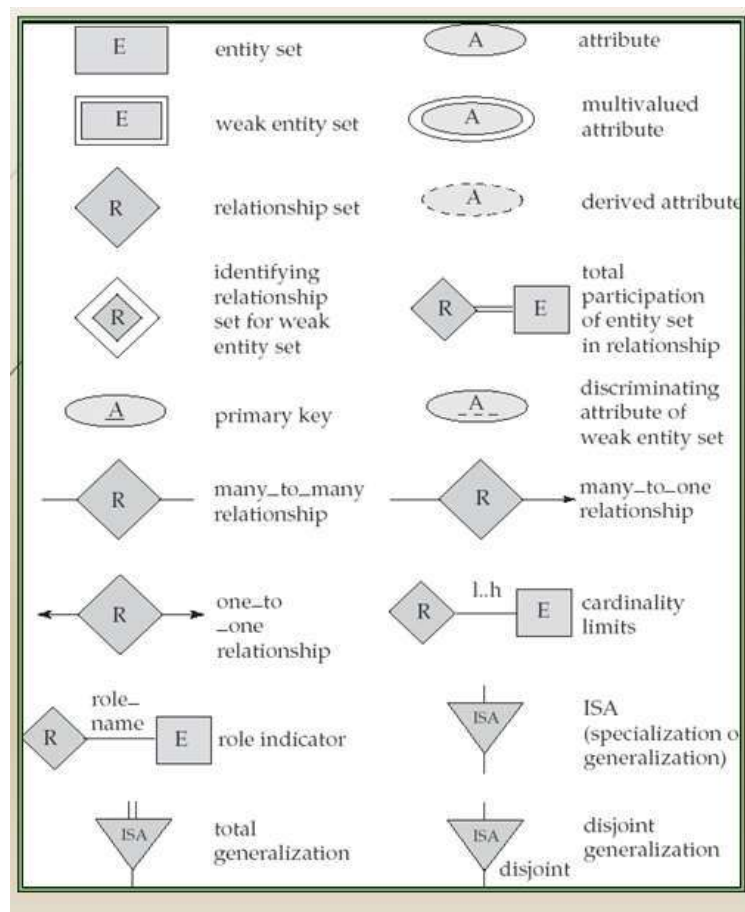
- Helps you to define terms related to entity relationship modeling
- Provide a preview of how all your tables should connect, what fields are going to be on each table
- Helps to describe entities, attributes, relationships
- ER diagrams are translatable into relational tables which allows you to build databases quickly
- ER diagrams can be used by database designers as a blueprint for implementing data in specific software applications
- The database designer gains a better understanding of the information to be contained in the database with the help of ERP diagram
- ERD Diagram allows you to communicate with the logical structure of the database to users

### **Components of the ER Diagram**

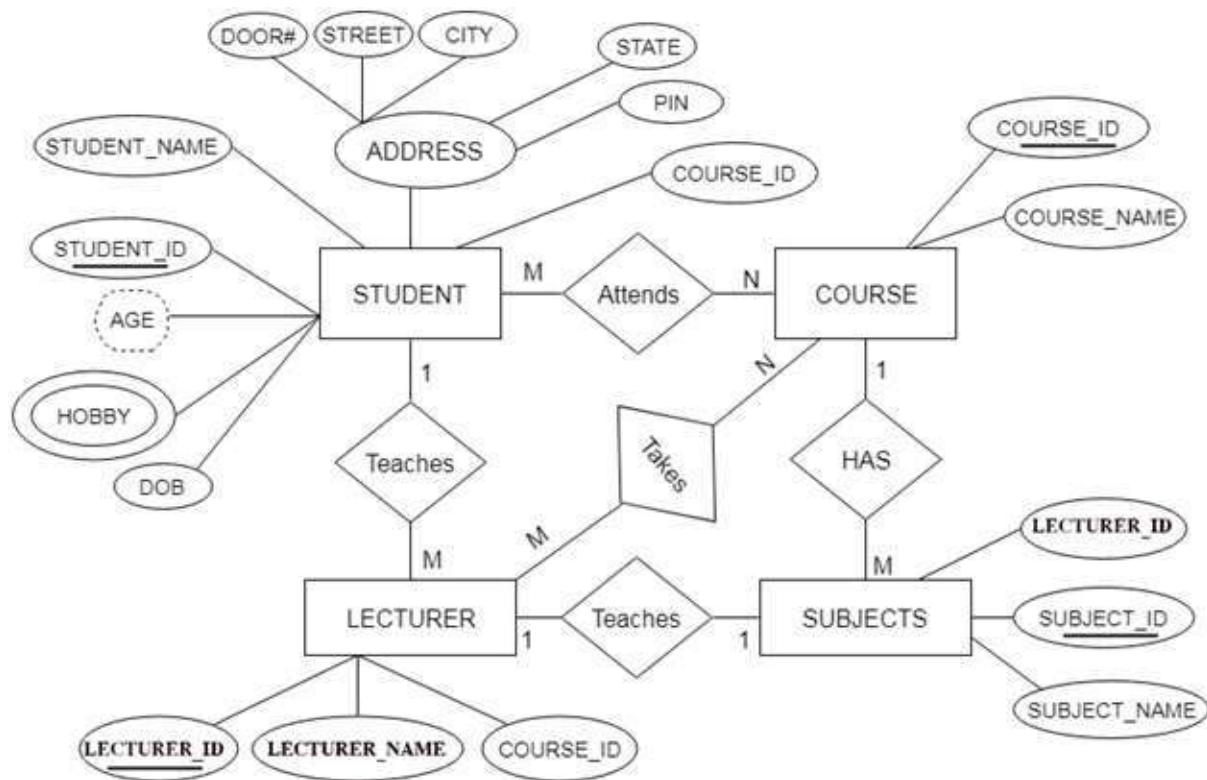
This model is based on three basic concepts: Entities, Attributes, Relationships

### **ER Diagram – Notations**

- Rectangles represent entity sets.
- Diamonds represent relationship sets.
- Lines link attributes to entity sets and entity sets to relationship sets.
- Ellipses represent attributes
- Double ellipses represent multivalued attributes.
- Dashed ellipses denote derived attributes.
- Underline indicates primary key attributes



## ER Diagram of University Database



### ADDITIONAL NOTES

- A database can be modeled as a collection of entities, relationship among entities.
- An entity is an object that exists and is distinguishable from other objects.  
Example: specific person, company, event, plant
- Entities have attributes.  
Example: people have names and addresses
- An entity set is a set of entities of the same type that share the same properties.  
Example: set of all persons, companies, trees, holidays
  
- Express the number of entities to which another entity can be associated via a relationship set.
- Most useful in describing binary relationship sets.
- We express cardinality constraints by drawing either a directed line ( $\rightarrow$ ), signifying “one,” or an undirected line ( $\text{—}$ ), signifying “many,” between the relationship set and the entity set.
  
- An entity is represented by a set of attributes, that is descriptive properties possessed by all members of an entity set.  
Example: customer = (customer-id, customer-name, customer-street, customer-city)  
loan = (loan-number, amount)
- Domain – the set of permitted values for each attribute
- Attribute types:
  1. Simple and composite attributes.
  2. Single-valued and multi-valued attributes  
E.g. multivalued attribute: phone-numbers
  3. Derived attributes-Can be computed from other attributes

E.g. age, given date of birth

### **Cardinality**

- For a binary relationship set the mapping cardinality must be one of the following types:

1. One to one

A customer is associated with at most one loan via the relationship borrower. A loan is associated with at most one customer via borrower

2. One to many

A loan is associated with at most one customer via borrower, a customer is associated with several (including 0) loans via borrower

3. Many to one

A loan is associated with several (including 0) customers via borrower, a customer is associated with at most one loan via borrower

4. Many to many

A loan is associated with several (including 0) customers via borrower, a customer is associated with several loans (including 0) via borrower

### **Weak Entity Set**

- An entity set that does not have a primary key is referred to as a weak entity set and represented by double outlined box in E-R diagram.

Example : Consider the entity set payment which got three attributes : payment\_number, payment\_date and payment\_amount. Payment numbers are sequential starting from 1 generally separately for each loan. Although each payment entity is distinct, payments for different loans may share the same payment number. Thus this entity set does not have a primary key.

### **Discriminator**

- The discriminator (or partial key) of a weak entity set is the set of attributes that distinguishes among all the entities of a weak entity set

Example: discriminator of weak entity set payment is the attribute payment\_number since for each loan a payment number uniquely identifies one single payment for that loan.

### **Specialization-Generalization-ISA**

- E-R model provides means of representing these distinctive entity groupings

- Process of designating subgroupings within an entity set is called specialization depicted by triangle component labelled ISA ("is a")

- Bottom up design process in which multiple entity sets are synthesized into higher level entity set - Generalization

- ISA relationship may also be referred to as superclass-subclass relationship

- Higher and lower level entity sets are designated by the terms superclass and subclass.

- Specialization and generalization are simple inversions of each other; they are represented in an E-R diagram in the same way.

### **Total & Partial Participation**

- Total participation (indicated by double line): every entity in the entity set participates in at least one relationship in the relationship set

E.g. participation of loan in borrower is total, every loan must have a customer associated to it via borrower

- Partial participation: some entities may not participate in any relationship in the relationship set

Example: participation of customer in borrower is partial

### **Cardinality limits**

- Cardinality limits can also express participation constraints
- Minimum and maximum cardinality is expressed as  $l..h$  where  $l$  is the minimum and  $h$  is the maximum cardinality
- Minimum value of 1 indicates total participation of entity set in relationship set
- Maximum value of 1 indicates entity participates in at most one relationship set.
- Maximum value of \* indicates no limit

### **Role indicator**

- Entity sets of a relationship need not be distinct
- The labels “manager” and “worker” are called roles; they specify how employee entities interact via the works-for relationship set.
- Roles are indicated in E-R diagrams by labeling the lines that connect diamonds to rectangles.
- Role labels are optional, and are used to clarify semantics of the relationship

### **Disjoint Generalization**

- Disjointness constraint requires that an entity belong to more than one lower level entity set. Example: account entity can satisfy only one condition for account\_type attribute ; entity can either be savings or chequing account but not both.



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	8
<b>Title of Experiment</b>	Develop a Data Flow Diagram (Process-Up to Level 1)
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Adhin Jibil Shanthosh Sivan
<b>Register Number</b>	RA2011030010052 ,RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	16.5.2022

### Mark Split Up

<b>S. No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
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**Staff Signature with date**

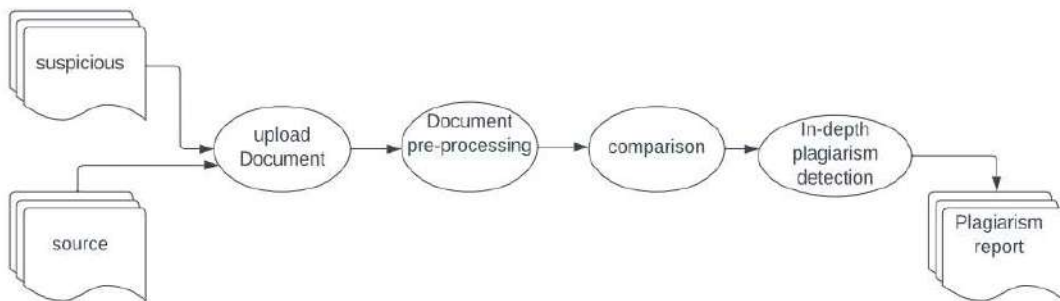
## Aim

To develop the data flow diagram up to level 1 for the <project name>

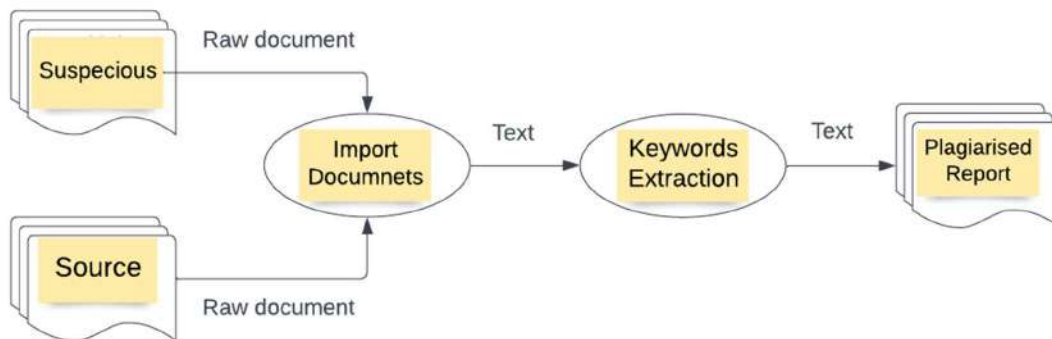
## Team Members:

S No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep
2	RA2011030010031	Adhin Jibil X	Member
3	RA2011030010044	Shanthosh Sivan S	Member

## DFD Level 0:



## DFD Level 1:



Result:

Thus, the data flow diagrams have been created for the <project name>.

### **Data Flow Diagram**

The DFD takes an input-process-output view of a system. That is, data objects flow into the software, are transformed by processing elements, and resultant data objects flow out of the software. Data objects are represented by labeled arrows, and transformations are represented by circles (also called bubbles). The DFD is presented in a hierarchical fashion. That is, the first data flow model (sometimes called a level 0 DFD or context diagram) represents the system as a whole. Subsequent data flow diagrams refine the context diagram, providing increasing detail with each subsequent level.

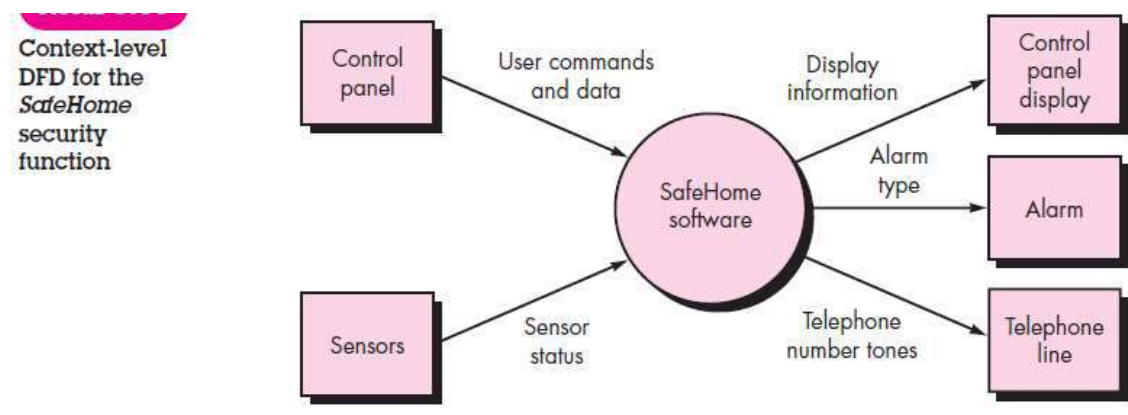
The data flow diagram enables you to develop models of the information domain and functional domain. As the DFD is refined into greater levels of detail, you perform an implicit functional decomposition of the system. At the same time, the DFD refinement results in a corresponding refinement of data as it moves through the processes that embody the application.

A few simple guidelines can aid immeasurably during the derivation of a data flow diagram:

- (1) Level 0 data flow diagram should depict the software/system as a single bubble;
- (2) Primary input and output should be carefully noted;
- (3) Refinement should begin by isolating candidate processes, data objects, and data stores to be represented at the next level;
- (4) All arrows and bubbles should be labeled with meaningful names;
- (5) Information flow continuity must be maintained from level to level and
- (6) One bubble at a time should be refined. There is a natural tendency to overcomplicate the data flow diagram. This occurs when you attempt to show too much detail too early or represent procedural aspects of the software in lieu of information flow.

### **\*/ For Example**

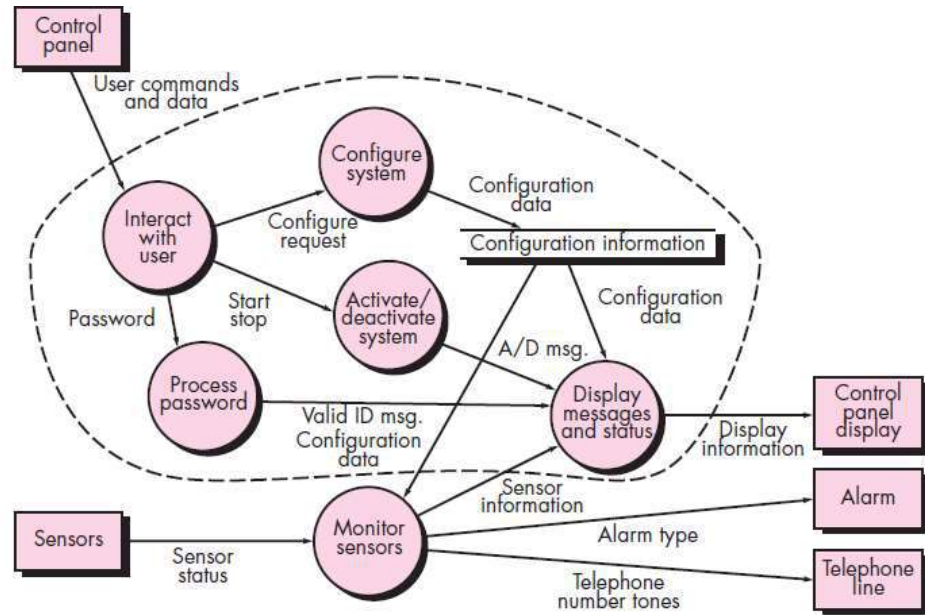
#### **DFD Level 0**





## DFD Level 1

Level 1 DFD for the *SafeHome* security function





## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	9
<b>Title of Experiment</b>	Design a Sequence and Collaboration Diagram
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Shanthosh Sivan Adhin Jibil
<b>Register Number</b>	RA2011030010052 RA2011030010044 RA2011030010031
<b>Date of Experiment</b>	

### Mark Split Up

<b>S. No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

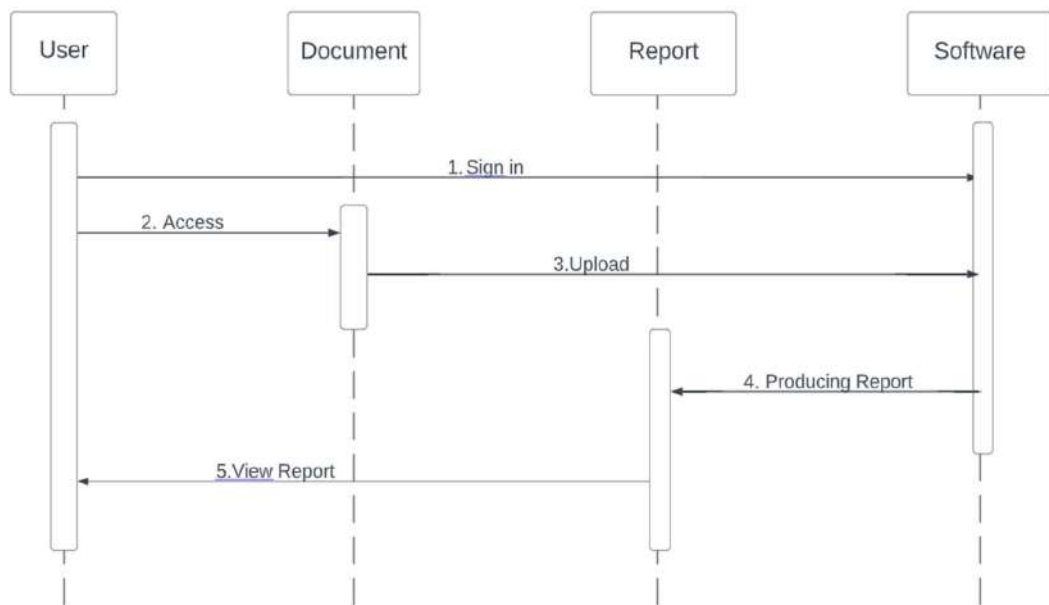
### Aim

To create the sequence and collaboration diagram for the <project name>

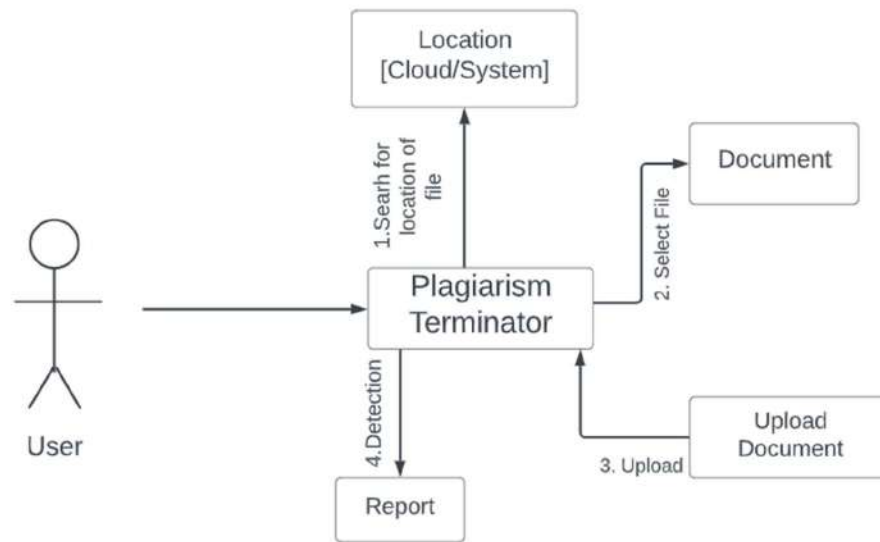
### Team Members:

S No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep/Member
2	RA2011030010044	Shanthosh Sivan	Member
3	RA2011030010031	Adhin Jibil	Member

### Sequence Diagram



## Collaboration Diagram

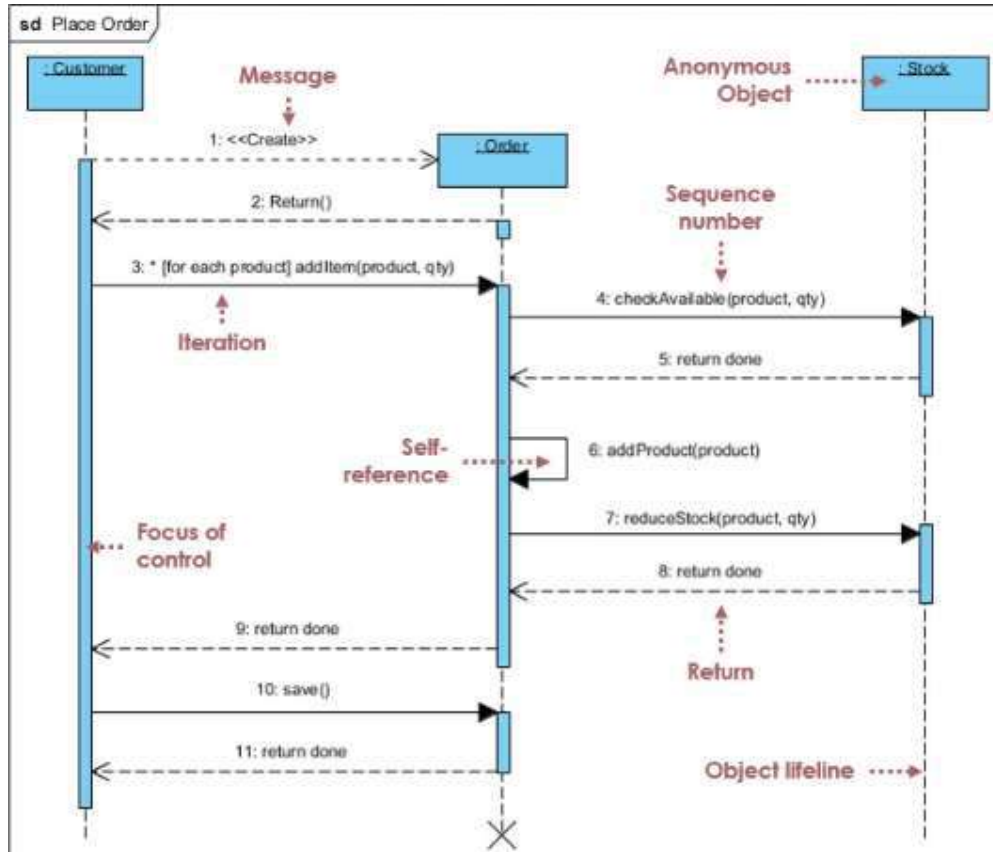


Result:

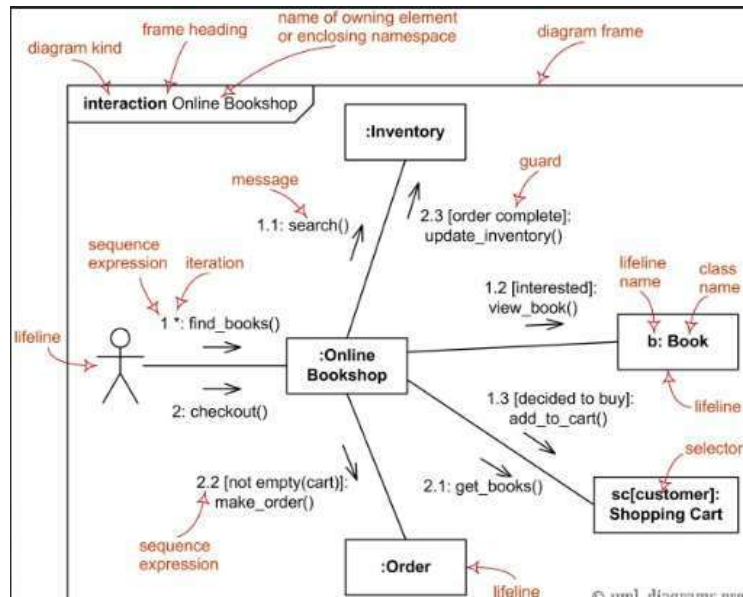
Thus, the sequence and collaboration diagrams were created for the Plagiarism Terminator project.

**\*/ For Example**

## Sequence Diagram



## Collaboration Diagram





## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	10
<b>Title of Experiment</b>	Develop a Testing Framework/User Interface
<b>Name of the candidate</b>	D Mukteshwar Reddy
<b>Team Members</b>	Veluru Manoj , Abhishek Rajpal
<b>Register Number</b>	RA2011030010001
<b>Date of Experiment</b>	

### Mark Split Up

<b>S. No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

**Aim**

To develop the testing framework and/or user interface framework for the AI Chatbot.

**Team Members:**

S No	Register No	Name	Role
1	RA2011030010001	D Mukteshwar Reddy	Rep/Member
2	RA2011030010014	Abhishek Rajpal	Member
3	RA2011030010021	Veluru Manoj	Member

**Executive Summary :****Testing Framework :**

- Conversational Flow.
- Usability & User Experience.
- NLP Score
- Bot Accuracy
- Bot Speed
- Conversation Steps.

**Testing will be done using Botium.at Tool.**

**Test Plan :**

**Personality:** Does the tone of the chatbot change each time when users start conversations with it or does it remain the same? Does a chatbot have a unique personality and its name relates to its service offerings?

**Onboarding:** Does a chatbot greet and welcome the user when she/he starts the conversation? Do chatbots help users know its goals and capabilities?

**Understanding:** Is a chatbot can understand emojis, small talk, idioms, etc.? Does the chatbot understand the question being asked during conversations?



**Accuracy:** Does the chatbot respond in multiple steps? Does a chatbot give valid answers to users?

**Navigation:** Does a chatbot support users to go back and change the context of the conversation?

**Intelligence:** Does a chatbot remember the things that have been questioned by users? What makes a chatbot intelligent? Are all chatbots based on AI? Does a chatbot remember the context of the conversation?

**Speed:** How much time does the Chatbot take to provide a response to the user's questions or queries? Does a chatbot take more time to respond?

**Error-Management:** Does a chatbot can handle a difficult situation alone? What questions do chatbots ask? What answers can chatbots give?

**The Following questions can be answered by Testing.**

**Scope of Testing :**

**Speed:** Ensure that our chatbot will deliver a quick and instant response to all types of users.

**User Engagement:** we promise to make our chatbots intelligent enough to initiate conversations with users or customers. Also, to help chatbots interact with users, we perform the A/B testing to increase user engagement, and assure that our chatbot will give meaningful answers to the customers.

**Interoperability:** Chatbot should have the ability to gather relevant information, and its setting should be configurable when users select any channels. Overall, we will perform interoperability testing to help your users get the right thing from the chatbot at the right time.

**Functionality:** We ensure that your chatbot functionalities are very well performed after the end of our functionality testing. Plus, we will help you get an easy navigation experience to boost the user's conversation journey.

**Comprehension Abilities:** With testing, we can ensure an error-free and good texting experience from our chatbot.

## Types of Testing, Methodology, Tools

Category	Methodology	Tools Required
Functional Requirements	Manual	Word Template
Security Testing	Agile Security Testing	Zap Attack Proxy (ZAP)
User Acceptance Testing (UAT)	Operational Acceptance Testing	Rally Software
A/B Testing	Split-run testing (or) bucket testing	Google Optimize
Adhoc Testing	Agile Development	Selenium

Result:

Thus, the testing framework/user interface framework has been created for the AI Chatbot.



## **School of Computing**

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	11
<b>Title of Experiment</b>	Test Cases
<b>Name of the candidate</b>	Aditya AR
<b>Team Members</b>	Adhin Jibil X Shanthosh Sivan S
<b>Register Number</b>	RA2011030010052 RA2011030010031 RA2011030010044
<b>Date of Experiment</b>	

### **Mark Split Up**

<b>S. No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

## Aim

To develop the test cases manual for the Plagiarism Terminator.

## Team Members:

S No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep
2	RA2011030010031	Adhin Jibil X	Member
3	RA2011030010044	Shanthosh Sivan S	Member

## Functional Test Cases

Test ID	Test Scenario	Test Case	Execution Steps	Expected Outcome	Actual Outcome	Status	Remarks
1	Document Upload	Valid format, file size	1.select the file 2.upload the file	Document is being verified	Document is being verified	Pass	Success
2	Document Upload	Large File Size	Document Upload Failed	Error Message	Error Message	Fail	Failure
3	Check The Plagiarism Detection	Plagiarised report	Plagiarism is detected	View Plagiarism Report	View Plagiarism Report	Pass	Success

## Non-Functional Test Cases

Test ID	Test Scenario	Test Case	Execution Steps	Expected Outcome	Actual Outcome	Status	Remarks
1	Verify User Registration	Provide appropriate Valid credentials	1.User Login 2. Enters into the home page	User should be taken to the next page for uploading documents	User should be taken to the next page for uploading documents	Pass	Success
2	Verify User Registration	Invalid credentials	Login fails	Error Message	Error Message	Fail	Failure
3	Easy to understand and operate user interface	Usable buttons and lists	Usage of buttons and selection lists in place of fields where user needs to type in data	Easy to understand and less effort to enter data	Easy to understand and less effort to enter data	Pass	Success

## Result:

Thus, the test case manual has been created for the Plagiarism Terminator.



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	12
<b>Title of Experiment</b>	Manual Test Case Reporting
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Adhin Jibil, Shanthosh Sivan S
<b>Register Number</b>	RA2011030010052 , RA2011030010031, RA2011030010044
<b>Date of Experiment</b>	

### Mark Split Up

<b>S. No</b>	<b>Description</b>	<b>Maximum Mark</b>	<b>Mark Obtained</b>
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

**Aim**

To prepare the manual test case report for the Plagiarism Checker.

**Team Members:**

S No	Register No	Name	Role
1	Aditya A R	RA2011030010052	Rep/Member
2	Adhin Jibil X	RA2011030010031	Member
3	Shanthosh Sivan S	RA2011030010044	Member

Category	Progress Against Plan	Status
Functional Testing	Green	Completed
Non-Functional Testing	Amber	In-Progress

Functional	Test Case Coverage (%)	Status
User Login	10%	Completed
Document Selection	30%	Completed
Verification	30%	Completed
Plagiarism Report	30%	Completed

**Result:**

Thus, the test case report has been created for the Plagiarism Checker.



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

<b>Experiment No</b>	13
<b>Title of Experiment</b>	Provide the details of Architecture Design/Framework/Implementation
<b>Name of the candidate</b>	Aditya A R
<b>Team Members</b>	Shanthosh Sivan Adhin Jibil
<b>Register Numbers</b>	RA2011030010052 RA2011030010044 RA2011030010031
<b>Date of Experiment</b>	

### Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
<b>Total</b>		<b>10</b>	

**Staff Signature with date**

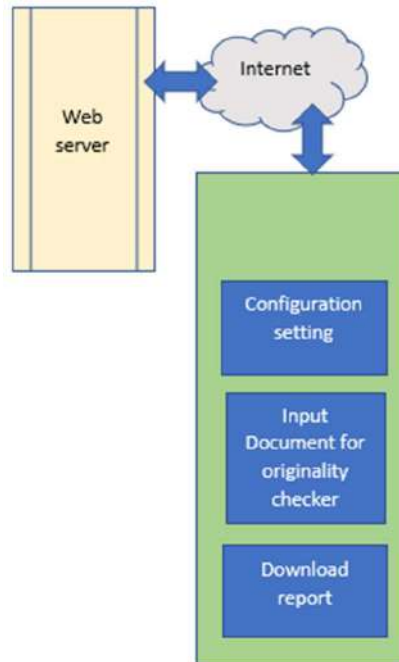
## Aim

To provide the details of architectural design/framework/implementation

## Team Members:

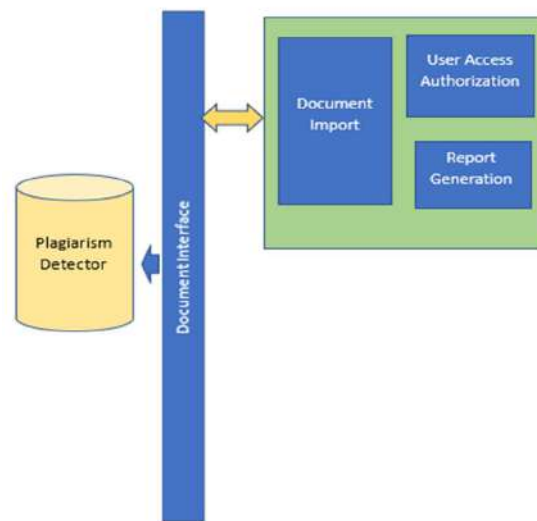
S No	Register No	Name	Role
1	RA2011030010052	Aditya A R	Rep/Member
2	RA2011030010044	Shanthosh Sivan	Member
3	RA2011030010031		Member

## User-Website Interface

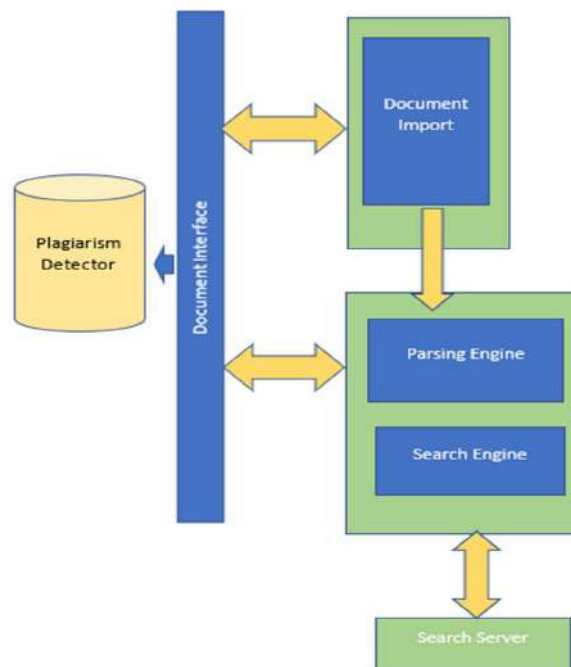




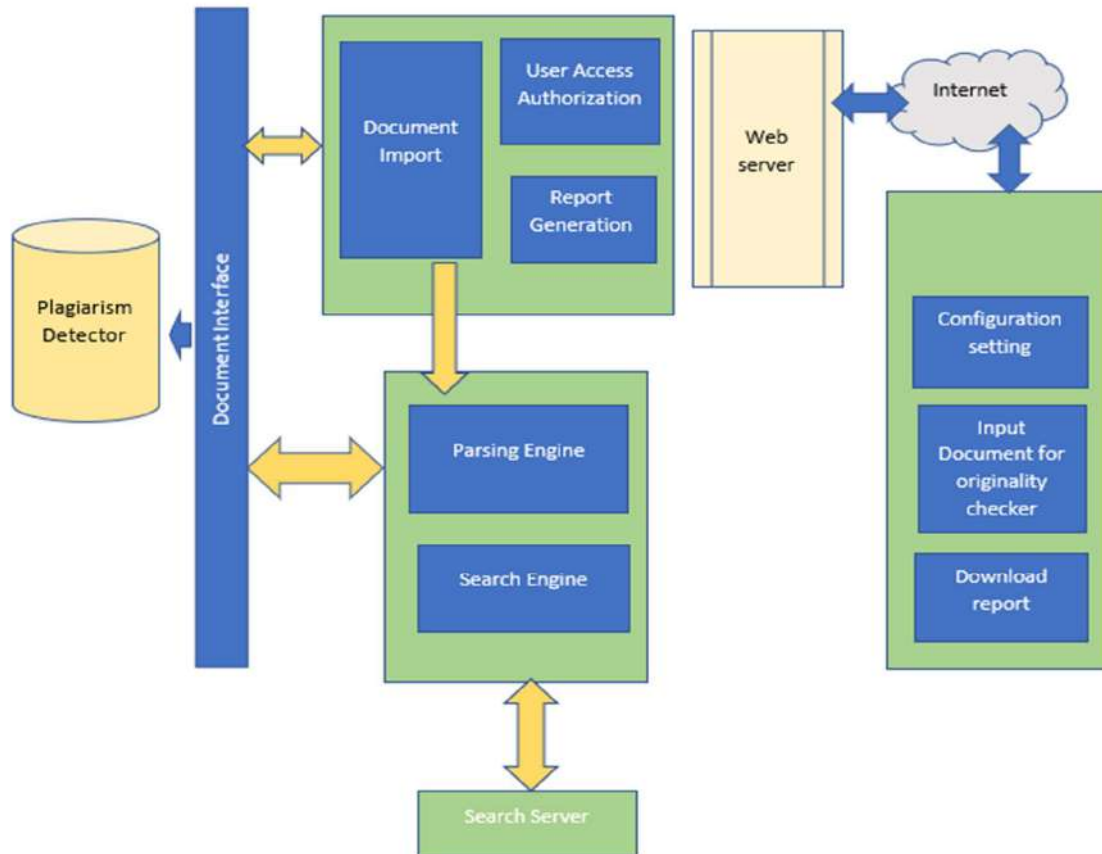
## Website - Server Interface



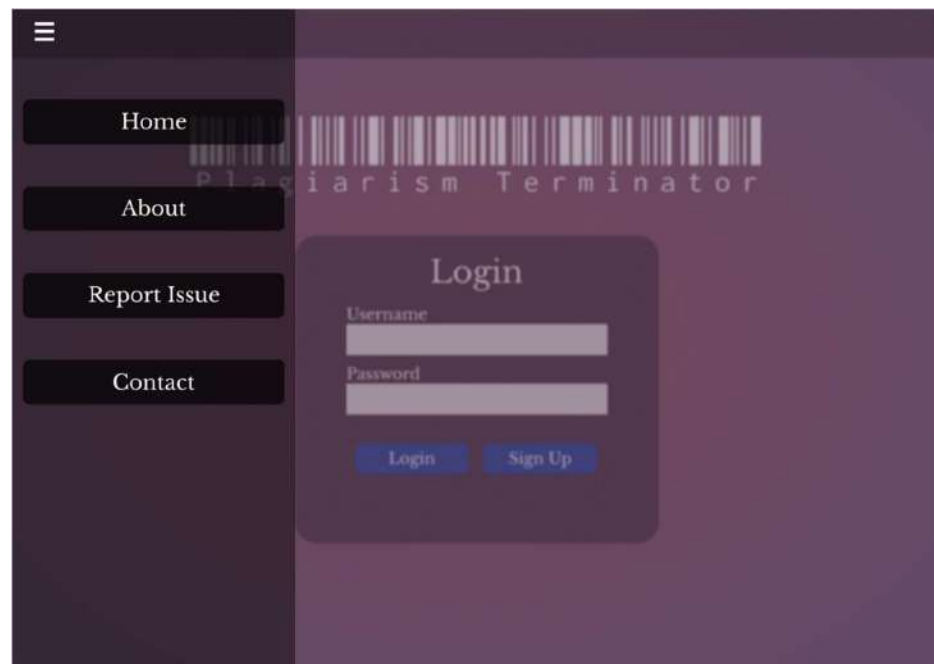
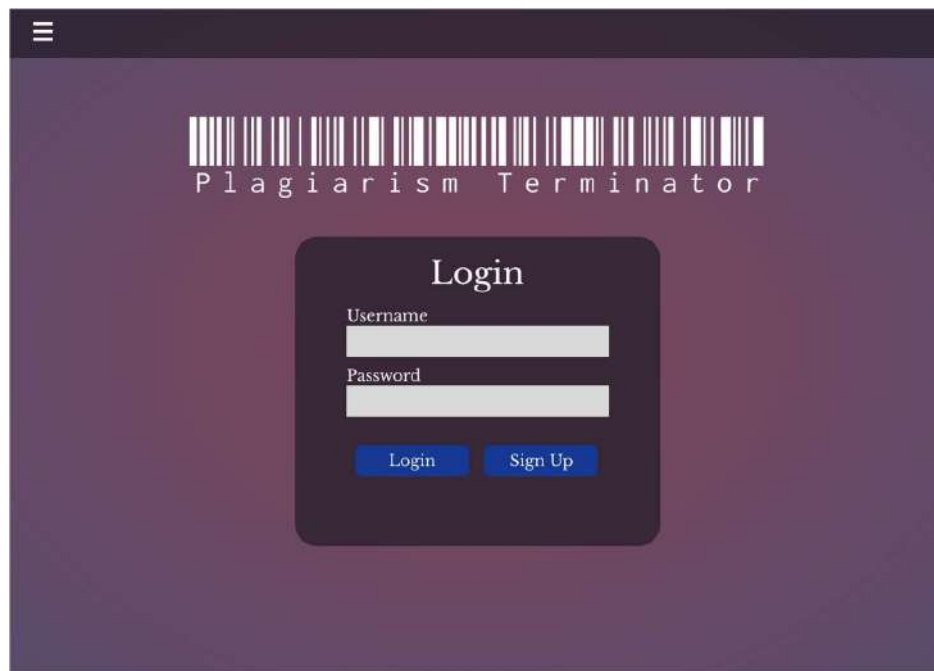
## Server-Database Interface

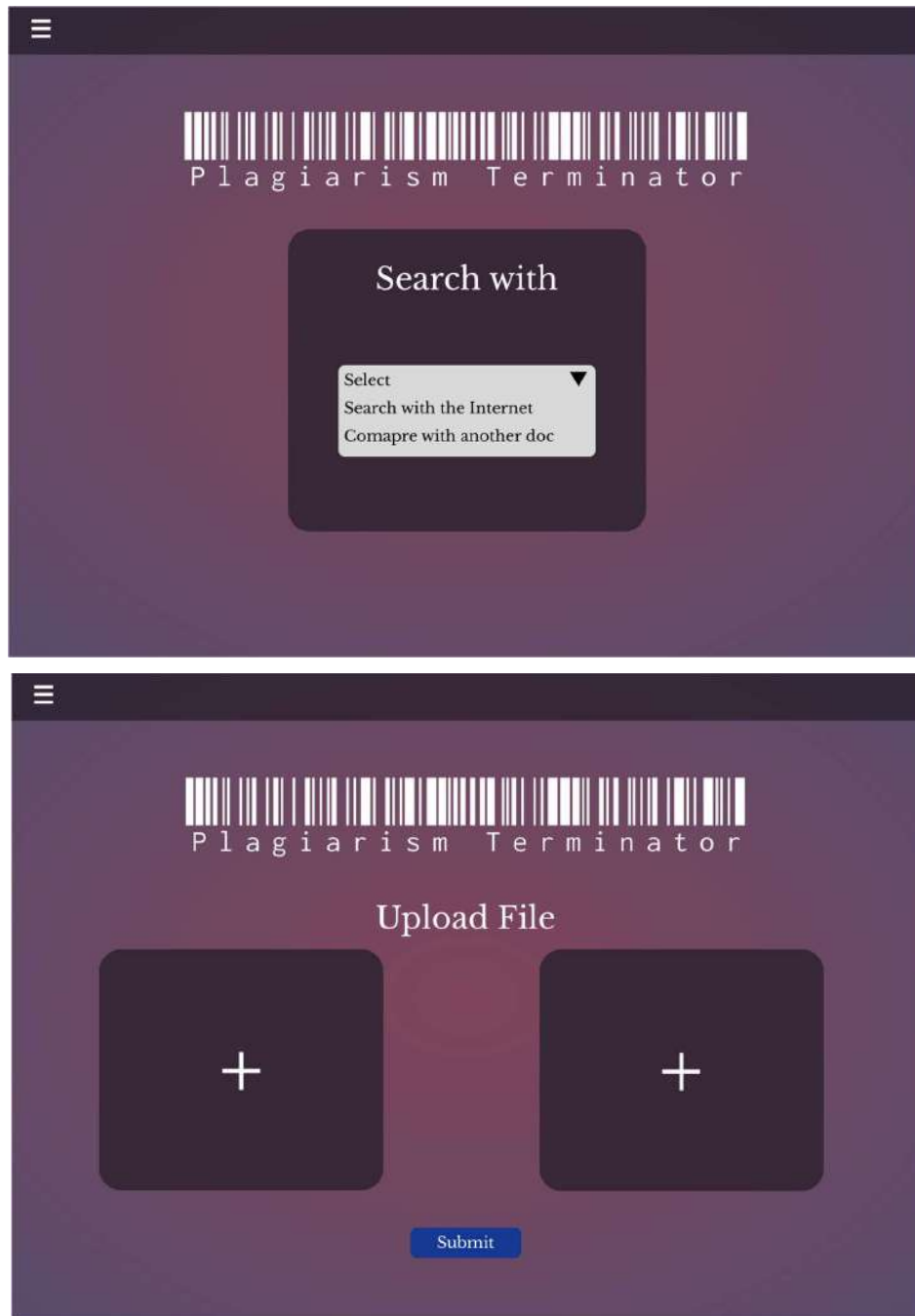


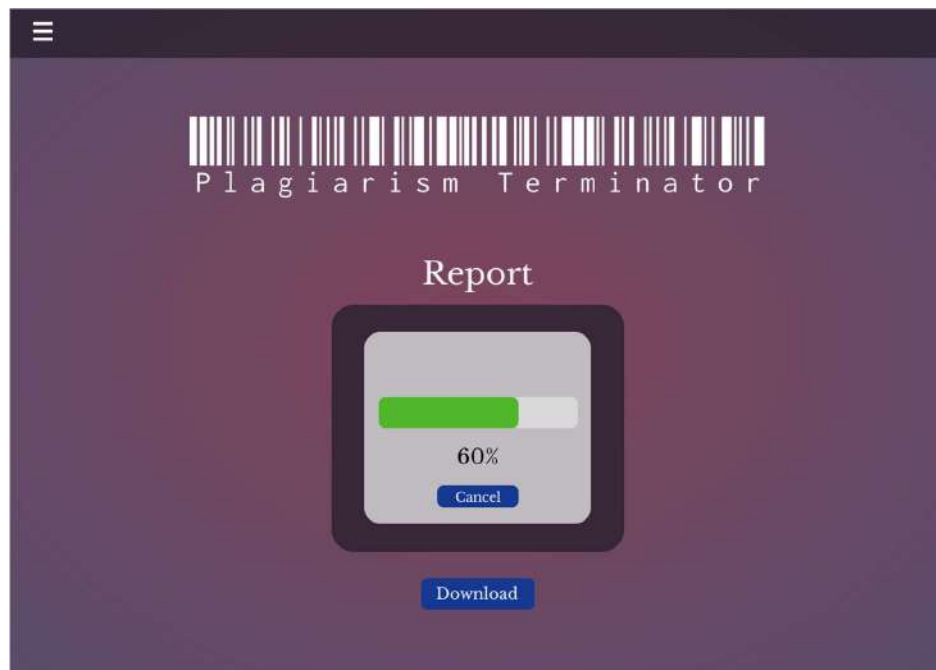
## Complete Architecture of the application



## Implementation







Result:

Thus, the details of architectural design/framework/implementation along with the screenshots were provided.