AZTEC SOLUTIONS

FOR: THE TECHNICAL UNIVERSITY OF KENYA

STUDENT SERVICES SUB-SYSTEM

TEAM MEMBERS

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System Requirements and technical specifications

1. LIST OF MODULES (EXPECTED COMPONENTS)

1. *User management*
2. *Service Request Module*
3. *Acknowledgement*
4. *Response*
5. *Booking and escalation*
6. *Report generation*

2. FUNCTIONALITIES - members

1. USER MANAGEMENT MODULE

OPERATION	FIELD TYPE	ACCESS	TIME REQUIREMENT
Register student	Form	Institution – DB	One time
Capture student details	N.A	Institution – DB	One time
Approve new registration	N.A	Institution – DB	One time
Store new reg. details	N.A	Institution – DB	One time
Create and provide access	FORM	Institution – DB	On-call
Reset credentials	N.A	Institution – DB	On-call

2. SERVICE REQUEST MODULE

OPERATION	FIELD TYPES	ACCESS	TIME REQUIREMENT
Fill in service request	Form	Student	Oncall
Edit service request	Form	Student	Oncall
Categorise request	Drop-list/search	Student	Oncall
Submit request	Button		Oncall

3. SERVICE ACKNOWLEDGEMENT MODULE

OPERATION	FIELD TYPES	ACCESS	TIME REQUIREMENT
View requests	N.A	Institution	Oncall
Sort requests	N.A	Institution	Oncall
Acknowledge requests	Form	Institution	Oncall

4. SERVICE RESPONSE MODULE

OPERATION	FIELD TYPES	ACCESS	TIME REQUIREMENT
Edit request- reword etc	Form	Institution	Oncall
Forward request to other agents	N.A	Institution	Oncall
Create response	Form	Institution	Oncall
Submit response	button	Institution	Oncall

5. SERVICE BOOKING MODULE

OPERATION	FIELD TYPES	ACCESS	TIME REQUIREMENT
View available time slots	Slider	Institution	Oncall
Assign time slot	N.A	Institution	Oncall
Verify availability of student for time slot	Call/email	Institution	Oncall
Edit time slot	N.A	Institution	Oncall

ESCALATION MODULE

//Escalation will be determined by the base agent upon realization that the issue requires higher level involvement or co-operation between departments.

This will be done with an email lodged to the desired individual/department agent with followups done using a call.

REPORT GENERATION MODULE

OPERATION	FIELD TYPES	ACCESS	TIME REQUIREMENT
issues report (common repetitive issues, keywords)	N.A	Institution	Oncall
user report	N.A	Institution	Oncall
Service report	N.A	Institution	Oncall

1. FUNCTIONALITIES - INSTITUTION

OPERATION	FIELD TYPES	ACCESS	TIME REQUIREMENT
Delete existing users	N.A	Super user	Oncall
Re-register user	N.A	Super user	Oncall
Delete time slots	N.A	Super user	Oncall
Re-organize slots	N.A	Super user	Oncall

USER CATERGORIES

| CATEGORY	ACCESS PRIVILEGE
Student	Membership- management, request modules
Lecturer	Acknowledgement, response, booking and escalation modules
IT department (Superuser)	ALL

ALERTS

Notifications for time slots and assigned tickets will be sent to students through

2. email
3. SMS alerts

TENTATIVE(PROBABLE) TECHNOLOGY STACK

The system will take a n-tier approach with the following architecture with a focus on creating individual micro services.
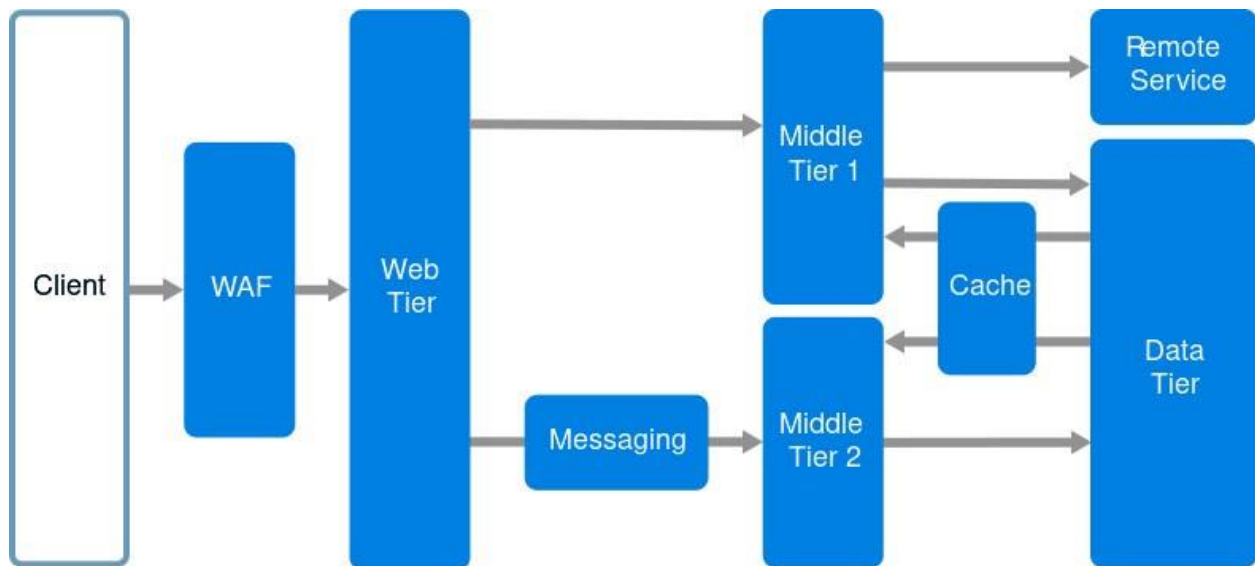
TECH STACK 1
ReactJS/Vue JS

Tailwind CSS

Express JS

Node JS

Restful API's

MongoDB ---→ ⎱   For testing
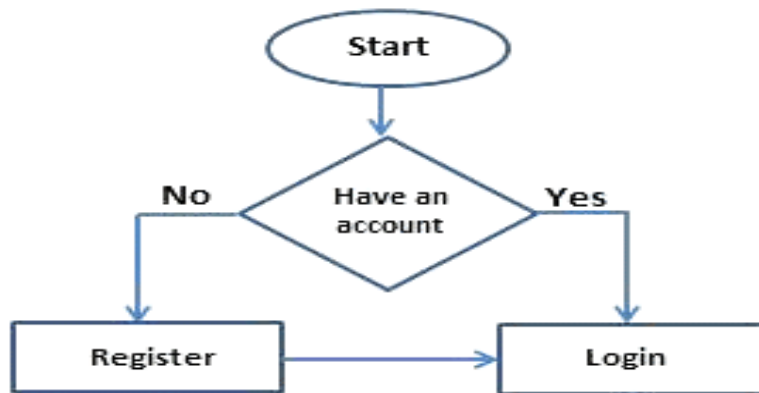
Firebase

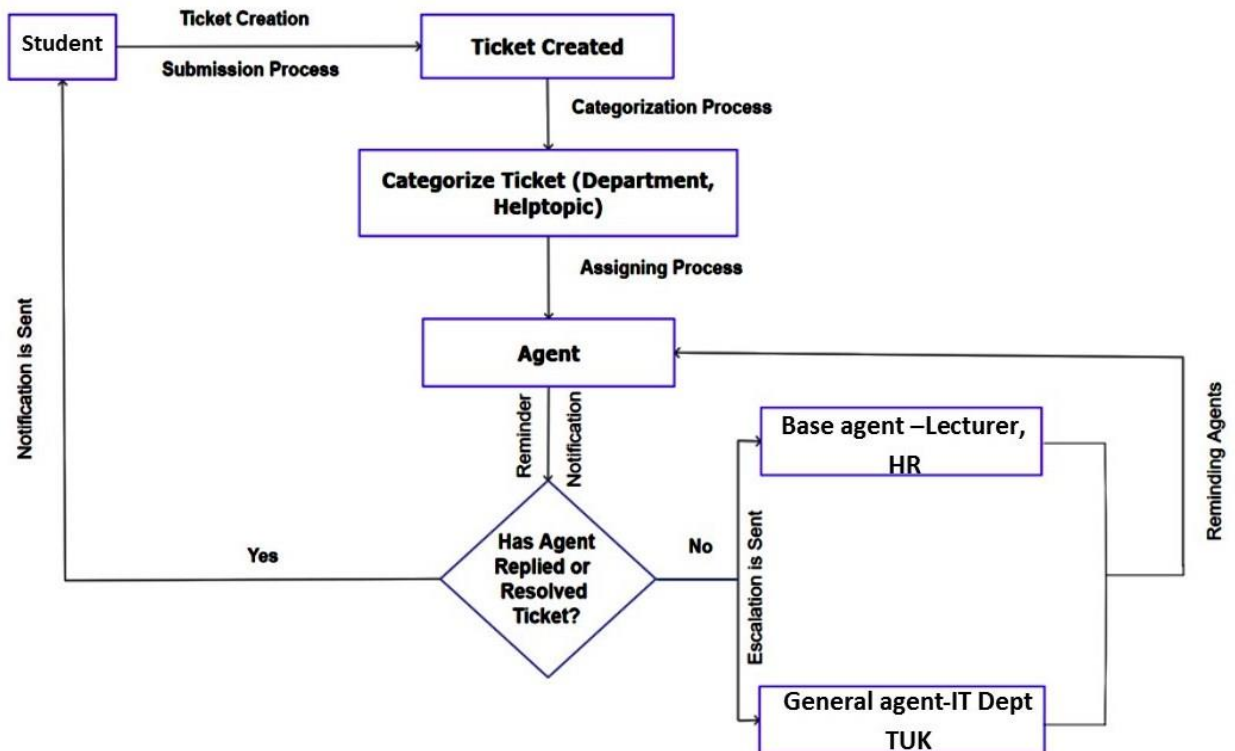***Amazon AWS - DynamoDB – (if fully deployed)***

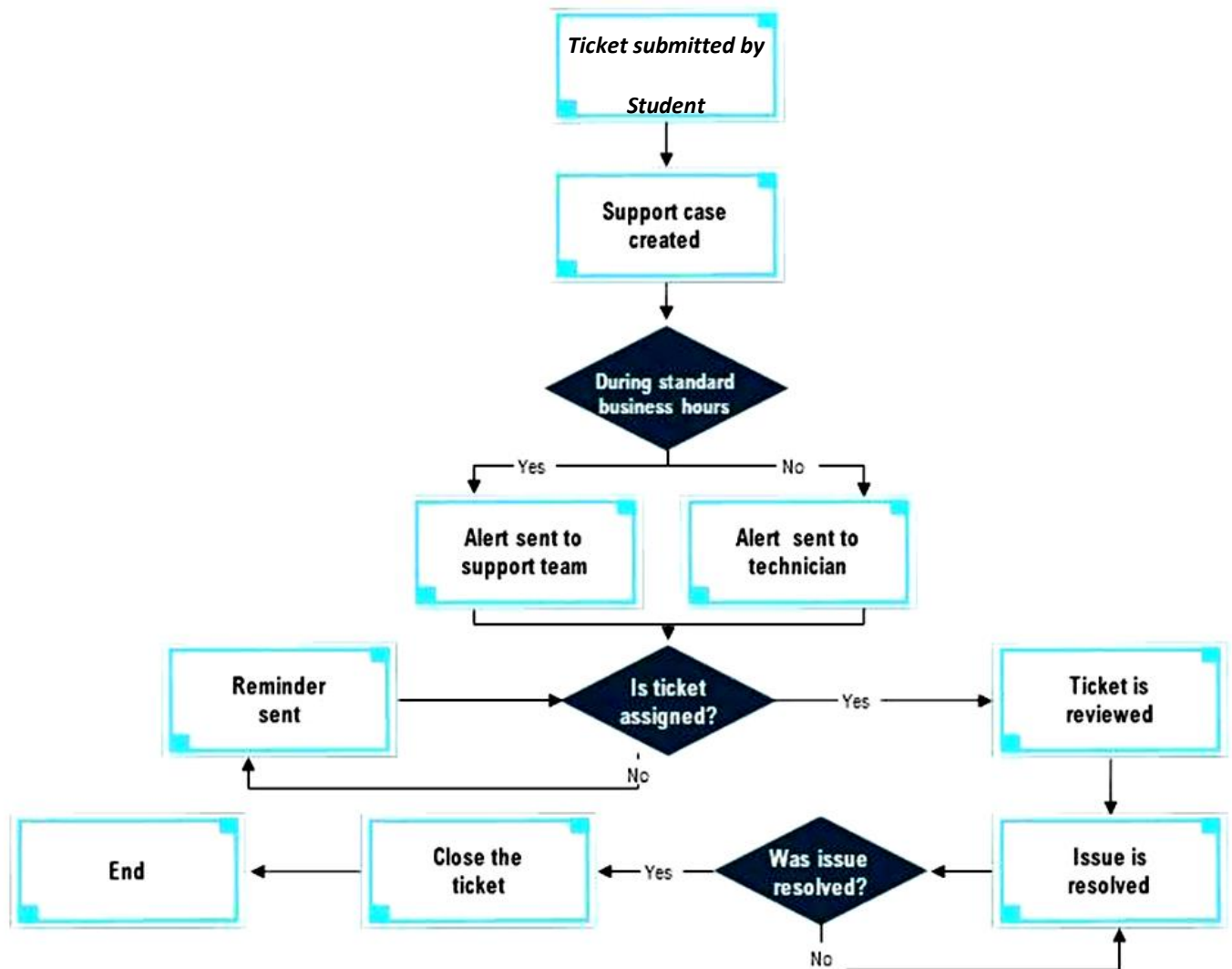JWT

Redux

FLOW CHARTS & DIAGRAMS

LOGIN AND SIGNUP FLOW

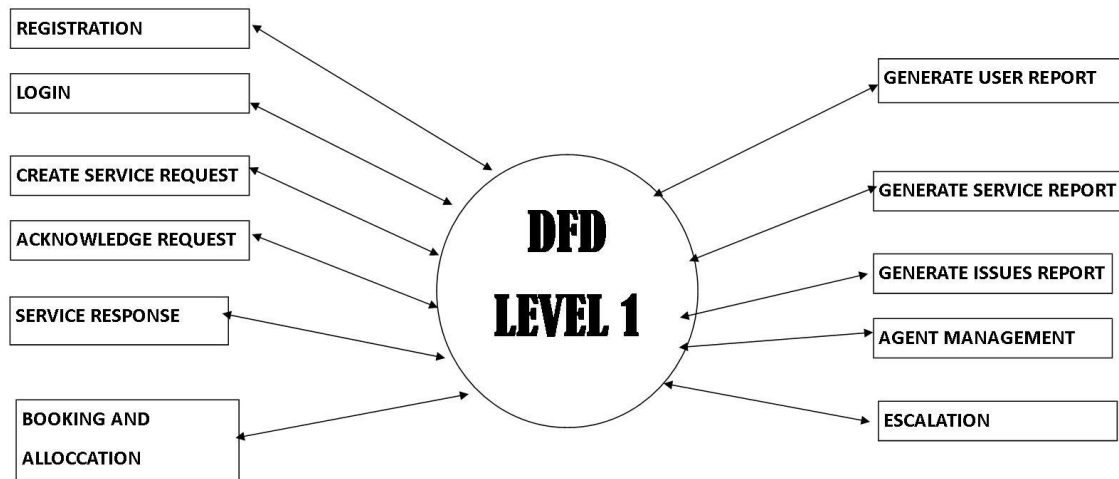*TICKET CREATION, ASSIGNMENT AND NOTIFICATION WORKFLOW DIAGRAM*

SMS ALERTS AND REMINDERS

```
                          ┌─────────────────────┐
                          │ Ticket submitted by │
                          │                     │
                          │      Student        │
                          └──────────┬──────────┘
                                     │
                          ┌──────────▼──────────┐
                          │    Support case     │
                          │      created        │
                          └──────────┬──────────┘
                                     │
                              ◆ During standard ◆
                              ◆ business hours  ◆
                     Yes ──────┘            └────── No
              ┌──────────────┐          ┌──────────────┐
              │ Alert sent to│          │ Alert sent to│
              │ support team │          │  technician  │
              └──────┬───────┘          └──────┬───────┘
                     └────────────┬────────────┘
  ┌──────────┐                    │
  │ Reminder │◄──────── ◆ Is ticket ◆ ──── Yes ────►┌──────────┐
  │   sent   │          ◆ assigned? ◆               │ Ticket is│
  └────┬─────┘               │                      │ reviewed │
       │                    No                      └────┬─────┘
       └────────────────────┘                           │
                                                         ▼
  ┌──────┐    ┌──────────┐        ◆ Was issue ◆    ┌──────────┐
  │ End  │◄───│ Close the│◄── Yes ◆ resolved? ◆◄───│ Issue is │
  └──────┘    │  ticket  │        └────┬──────┘    │ resolved │
              └──────────┘            No           └──────────┘
                                       └──────────────┘
```

//similar process followed for email reminders

DATA FLOW DIAGRAMS

SERVICE MANAGEMENT

USER MANAGMENT

DFD
LEVEL 0

REPORTS AND ALERTS

TIMESLOT AND BOOKING

REGISTRATION

LOGIN

CREATE SERVICE REQUEST

ACKNOWLEDGE REQUEST

SERVICE RESPONSE

BOOKING AND ALLOCCATION

DFD
LEVEL 1

GENERATE USER REPORT

GENERATE SERVICE REPORT

GENERATE ISSUES REPORT

AGENT MANAGEMENT

ESCALATION
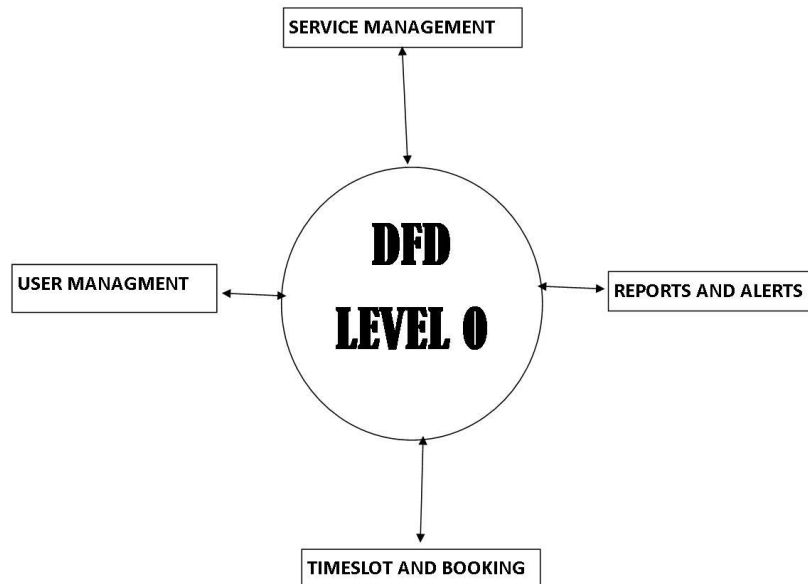
SEQUENCE AND GENERAL FLOW DIAGRAMS

STUDENT – FLOW DIAGRAM
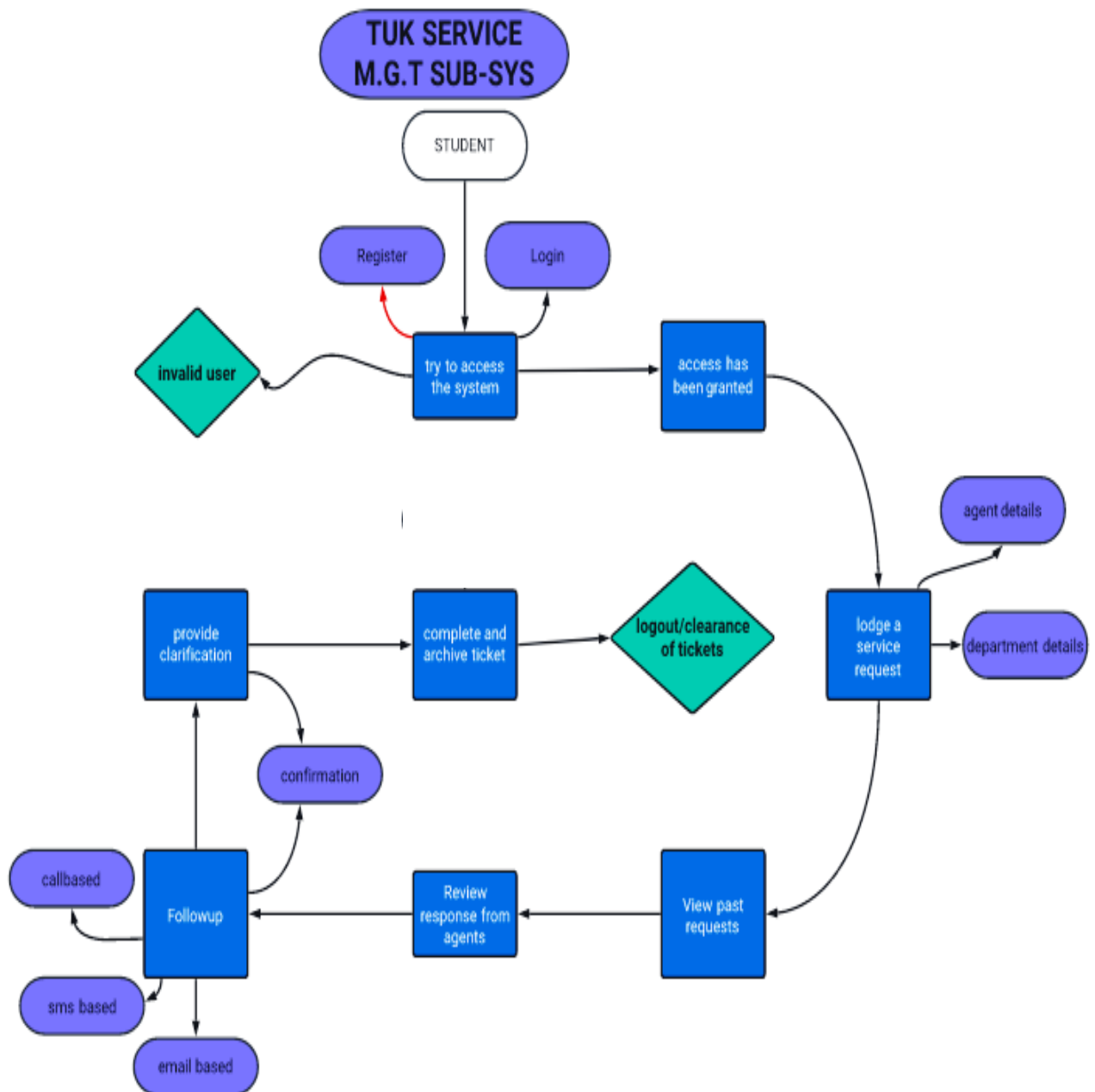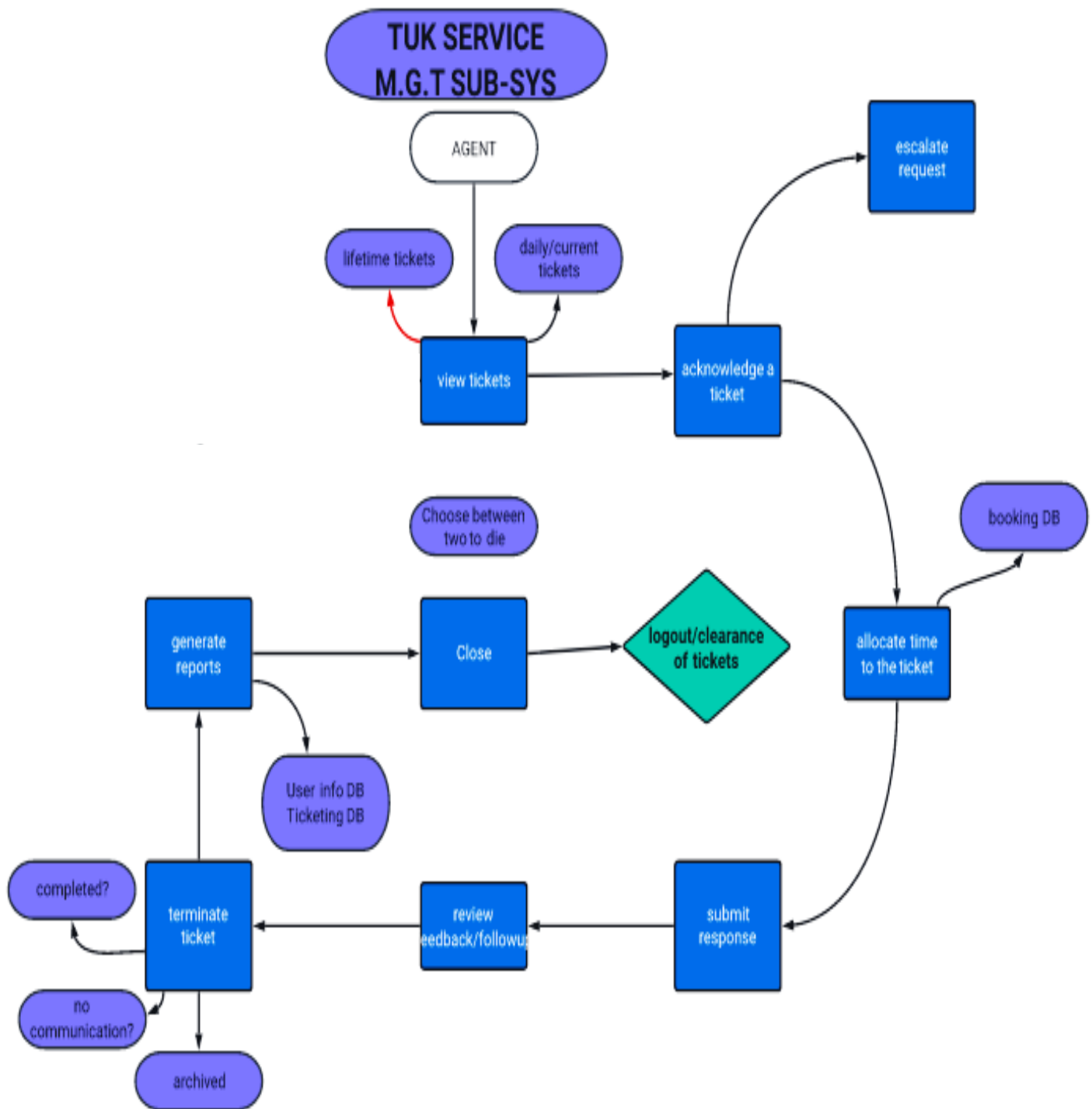
GENERAL FLOW-SEQUENCE DIAGRAM

TUK SERVICE MANAGEMENT SUB-SYSTEM