Certification Management System

A Centralized Digital Platform for Certificate Distribution and Access

ABSTRACT

The Certification Management System is a digital platform designed to solve the difficulty students face in organizing and retrieving their event certificates when needed. Currently, while certificates are distributed online, students often find it hard to track and access them later, especially when stored across different links or platforms. Our system centralizes this process by allowing event organizers to directly upload certificates under each event name, ensuring all certificates are stored in one secure location. Students can easily log in to view and download their certificates anytime, while faculty advisors have role-based access to track the certificates of their respective students. This eliminates the need for manual validation or repeated communication between organizers and participants. By providing a streamlined, transparent, and user-friendly solution, the project reduces confusion, saves time, and creates a verified digital archive of student achievements that is accessible whenever required.

Tech Stack

- **Frontend:** React and TailwindCSS

- **Backend:** Flask

- **Database:** PostgreSQL
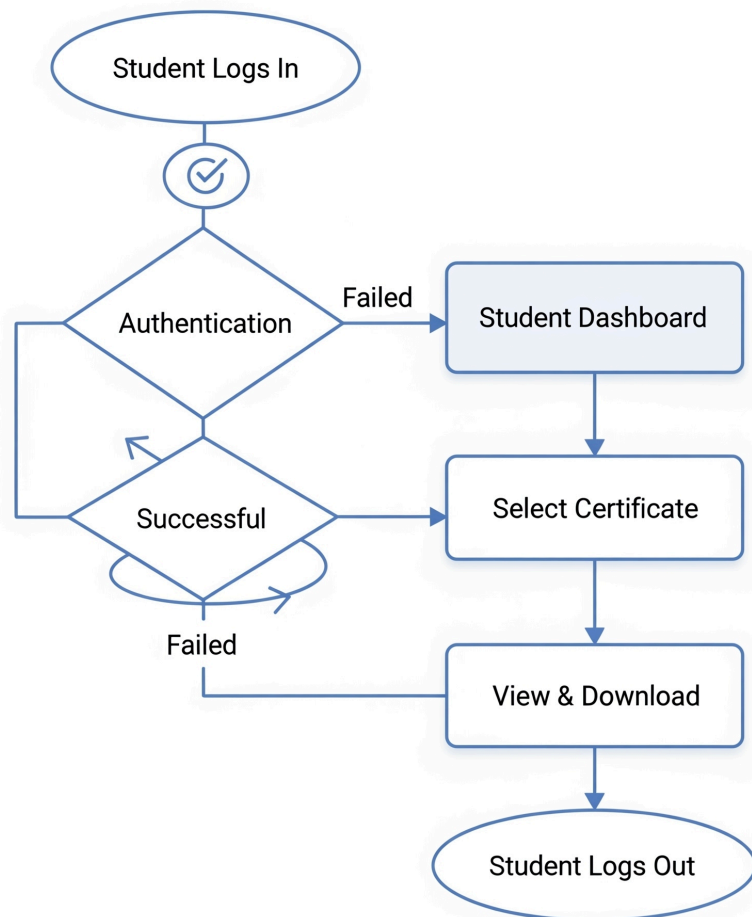
Date of Submission: 17/09/2025
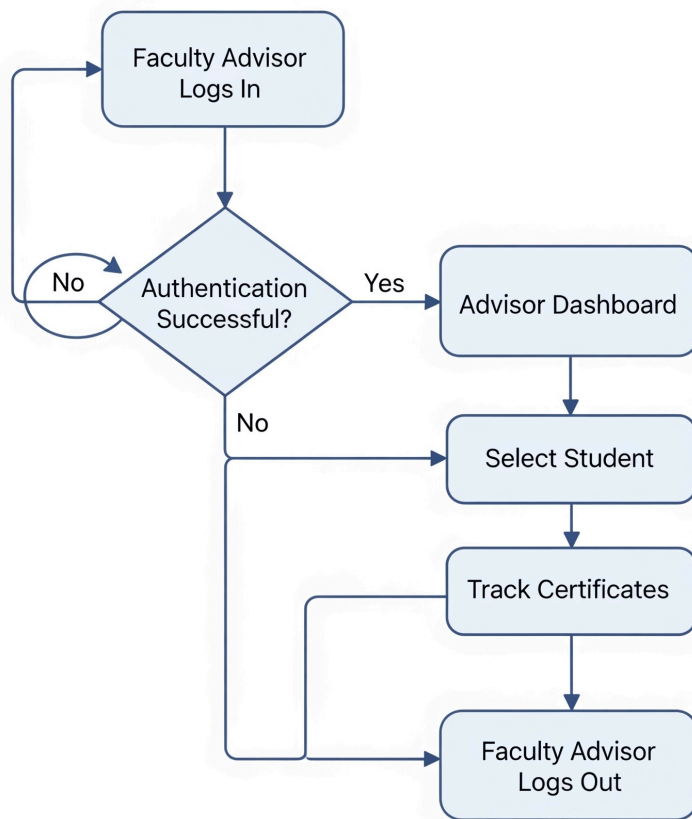
GROUP NO: 1
GROUP MEMBERS:
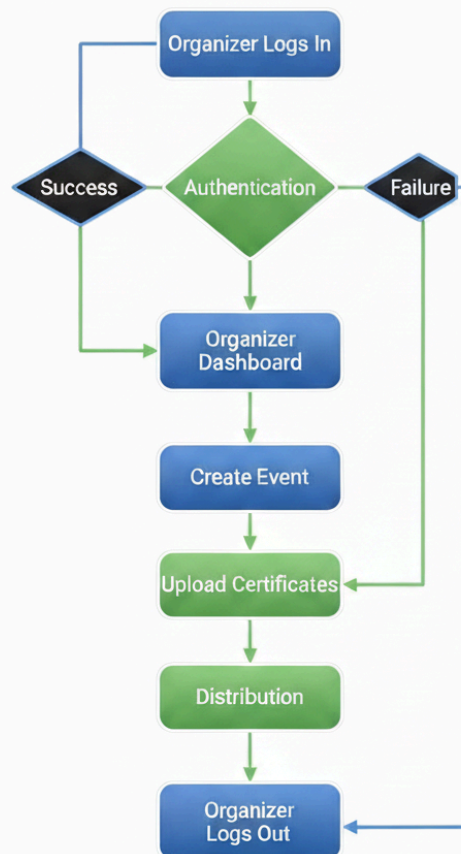Joann J Koodathil
Fidha Ahamed
Anusree K Jinan
Anjana G

Workflow

```
                    ┌─────────────────┐
                    │  Faculty Advisor │
                    │     Logs In      │
                    └─────────────────┘
                             │
                             ▼
              ┌────────────────────────┐
         No   ╱                          ╲   Yes    ┌──────────────────┐
       ┌──────   Authentication            ──────→ │ Advisor Dashboard │
       │      ╲   Successful?             ╱         └──────────────────┘
       │        ╲                        ╱                   │
       │          └────────────────────┘                    ▼
       │                   │  No                    ┌──────────────────┐
       │                   └──────────────────────→ │   Select Student  │
       │                                            └──────────────────┘
       │                                                     │
       │                                                     ▼
       │                                            ┌──────────────────┐
       │                                            │ Track Certificates │
       │                                            └──────────────────┘
       │                                                     │
       │                                                     ▼
       │                                            ┌──────────────────┐
       └──────────────────────────────────────────→│  Faculty Advisor  │
                                                    │     Logs Out      │
                                                    └──────────────────┘
```

Faculty Advisor Logs In → Authentication Successful?
- No → Faculty Advisor Logs In
- Yes → Advisor Dashboard → Select Student → Track Certificates → Faculty Advisor Logs Out
- No → Faculty Advisor Logs Out

Database Schema

1. **Students Table**

Column	Data Type	Constraints
student_id	INT	PRIMARY KEY
name	VARCHAR(100)	NOT NULL
class	VARCHAR(20)	NOT NULL
dept	VARCHAR(50)	NOT NULL

2. **Teachers Table**

Column	Data Type	Constraints
teacher_id	INT	PRIMARY KEY
name	VARCHAR(100)	NOT NULL
dept	VARCHAR(50)	NOT NULL
class	VARCHAR(20)	NULL

3. Events Table

Column	Data Type	Constraints
event_id	INT	PRIMARY KEY, AUTO INCREMENT
event_name	VARCHAR(150)	NOT NULL
organizer	VARCHAR(100)	NOT NULL
date	DATE	NOT NULL

4. Certificates Table

Column	Data Type	Constraints
cert_id	INT	PRIMARY KEY
student_id	INT	FOREIGN KEY REFERENCES Students(student_id) ON DELETE CASCADE
event_id	INT	FOREIGN KEY REFERENCES Events(event_id) ON DELETE CASCADE
file_url	VARCHAR(255)	NOT NULL
issue_date	DATE	DEFAULT CURRENT_DATE