NOODLE

MOBILE APPS
DEVELOPMENT
REPORT

Word done by
Gonçalo Faustino – 20231721
Juliana Reis – 20231590
Madalena Duarte – 20231614
Sofia Saraiva – 20231621

Professor
José Américo Alves Sustelo Rio

Introduction

Noodle is a role-based educational management app designed for administrators and teachers to manage classes, subjects and student attendances efficiently.

The main purpose of Noodle is to simplify and digitalize classroom management by allowing users to create and manage accounts, classes, subjects and students all in their smartphone.

The target audience are school administrators and teachers who need a simple way to manage their classes.

App Architecture

The app supports two user roles — **Admin** and **Teacher** — with distinct access flows after login.

After logging in, users are redirected based on their role:

- o **Admin** → AdminHome
- o **Teacher** → TeacherHome

Teacher Flow:

- **TeacherHome**: Lists the subjects assigned to the teacher.
  - o **SubjectDetail**: Shows students and scheduled classes for each subject.
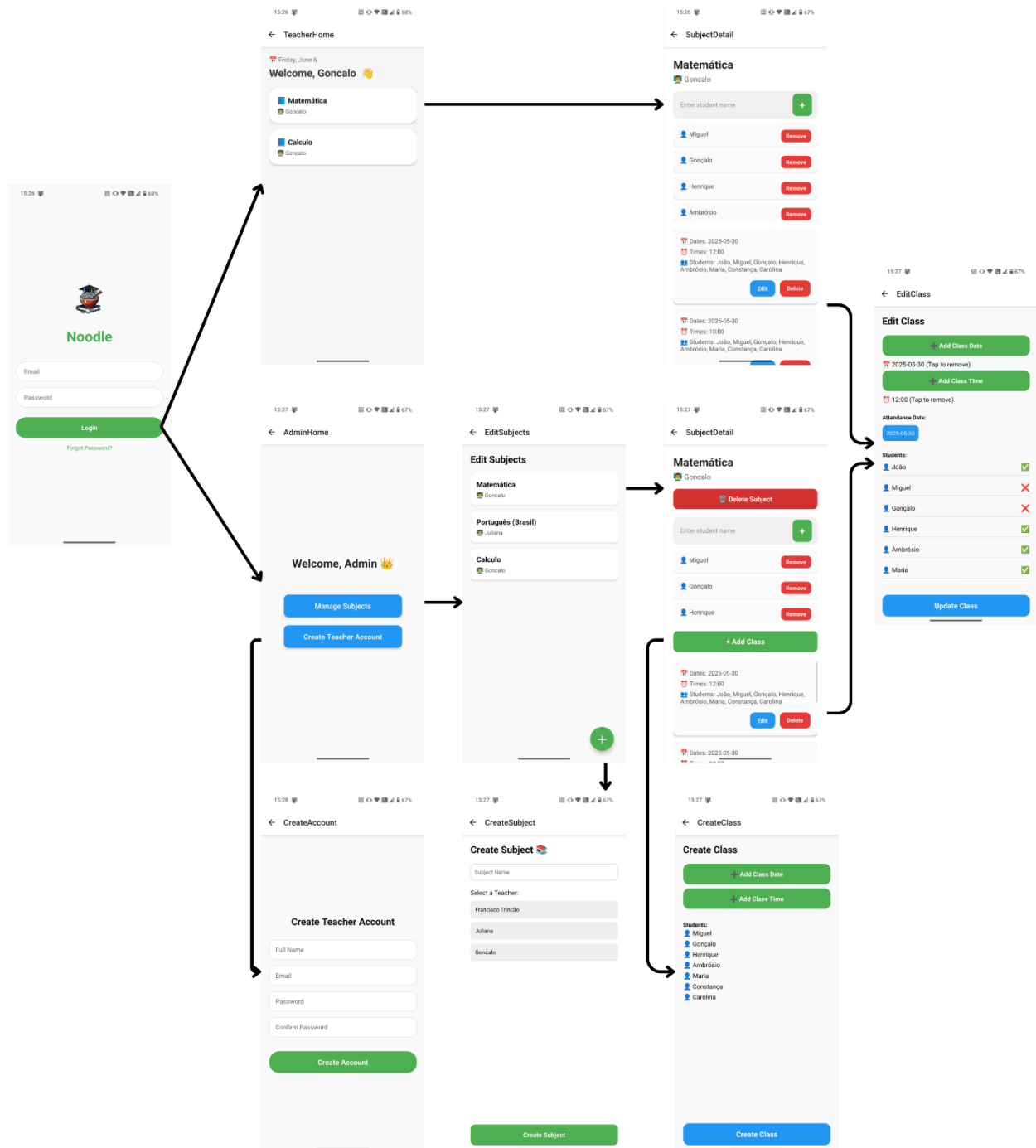   - ▪ **EditClass**: Allows editing class attendance and details.

Admin Flow:

- **AdminHome**: Dashboard with two main options:
  - o **CreateAccount**: Create new teacher accounts.
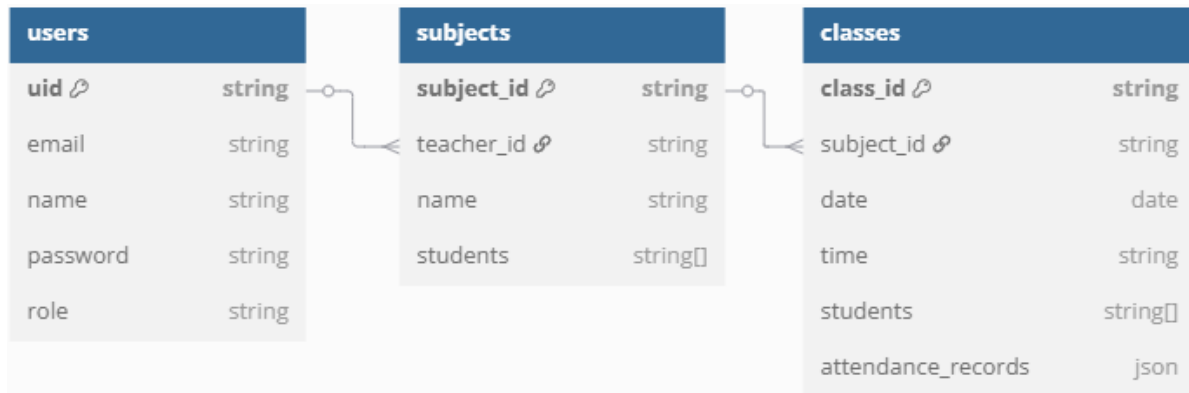
EditSubjects: Manage subjects.

- ▪ **CreateSubject**: Add new subjects.
- ▪ **SubjectDetail**: View and manage subject info with extra permissions.
  - ▪ **CreateClass**: Schedule new classes.
  - ▪ **EditClass**: Edit class details.

App screens and Storyboard

Database Diagram

users			subjects			classes	
uid	string		subject_id	string		class_id	string
email	string		teacher_id	string		subject_id	string
name	string		name	string		date	date
password	string		students	string[]		time	string
role	string					students	string[]
						attendance_records	json

Functionalities

Role-based access: Admin and Teacher

Admin capabilities:

- Add/edit/delete subjects

- Assign teachers to subjects

- Add/edit students and enrol them in subjects

- Schedule classes under specific subjects (with date, and time)

Teacher capabilities:

- View assigned subjects and related classes

- Mark student attendance for each class

- View attendance history

- Edit class info

Classes organized within subjects

Login/authentication system

Structured database linking subjects, teachers, students, and classes

Teacher Account Creation form

Technologies Used

- React Native for building the mobile app interface
- Expo for fast development and testing
- Firebase Authentication for user login and password reset
- Firestore for storing and retrieving user and app data

Challenges Faced

One challenge was managing logic across screens before defining a clear database structure. Later, building the APK also caused issues, but switching to a development build helped identify and fix the problems.

Conclusion

This project allowed us to build a functional mobile app using React Native, Expo, and Firebase. We learned how to manage different user roles, connect with a real-time database, and handle navigation between screens. Despite some initial difficulties, especially with planning the structure, the result was very positive, and we find the app very easy to navigate.