NOODLE

MOBILE APPS DEVELOPMENT REPORT

Word done by

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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:

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

Teacher Flow:

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

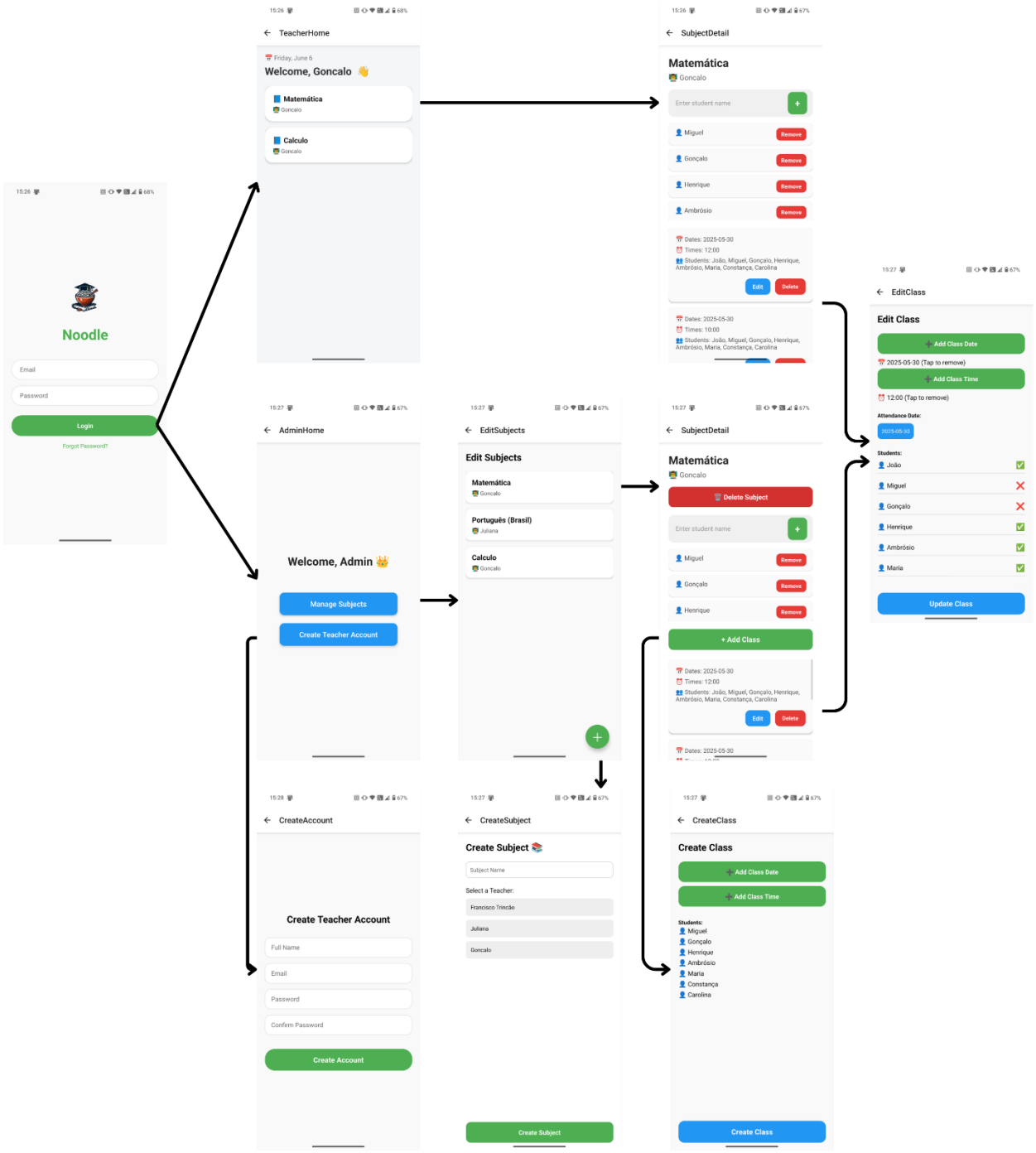
Admin Flow:

- **AdminHome**: Dashboard with two main options:
  - **CreateAccount**: Create new teacher accounts.

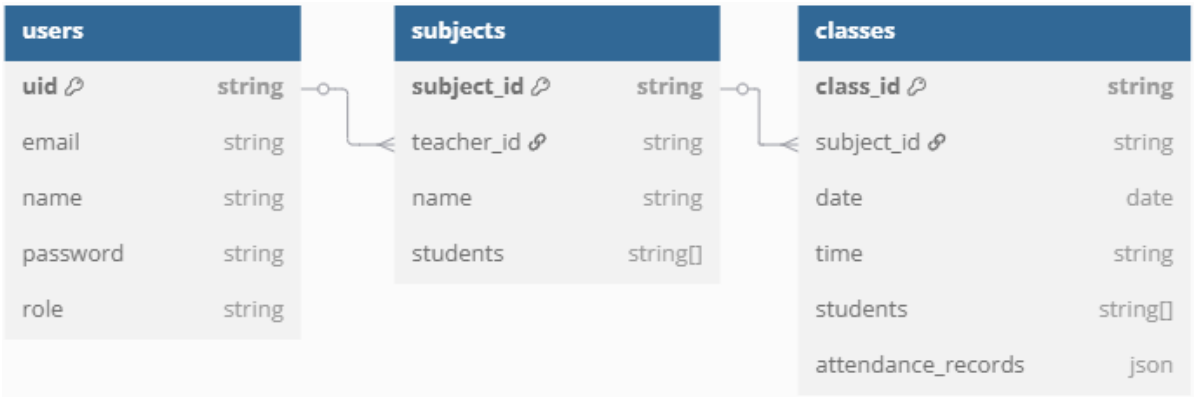
EditSubjects: Manage subjects.

- **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



Functionalities

Role-based access: Admin and Teacher

Admin capabilities:

- Add/edit/delete subjects
- Assign teachers to subjects
- Create teacher accounts
- 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

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.

Accounts for testing purposes

Teacher account:

- Email: teste@gmail.com
- Password: 123456

Admin Account:

- Email: admin@gmail.com
- Password: 123456

Conclusion

This project enabled us to develop a complete and functional mobile app using React Native, Expo, and Firebase. We successfully implemented role-based access, data management with Firestore, and screen navigation. Throughout the development, we developed our understanding of mobile architecture and database integration. Despite early planning challenges and APK build issues, we were able to overcome them using development builds for debugging. Overall, the result is a well-structured and easy-to-use app that meets all the predefined requirements.