

Impact Report

The most significant change from Evolution1 to Evolution2 is in the storage method and the functional partitioning. In Evol 2, we have transitioned the storage to a MySQL database. Additionally, we now have separate clients for teachers/students and administrators. However, we have not made substantial alterations to the existing functionalities; rather, we have simply redistributed the roles:

1. Client+Server

Student

- Can change its password
- Can change their preferred name
- Can choose to select which courses to receive a weekly email from
- Can have the attendance report emailed to them on one-off basis

Teacher

- Can change its password
- Can take attendance
- Can edit previous attendance
- Can view attendance reports for a specific student

2. Admin Add:

- Parse all students in the university
- Parse all courses in the university
- Parse file mapping student to courses
- Enroll late enrollees (registered with school) to course
- Enroll late enrollees (not registered with school) in to course
- Drop student from a course

Firstly, the client serves merely as an I/O interface for interaction with the server and does not process any information. Once the input is transmitted to the server, it interacts with the database through JDBC to update or retrieve the necessary information. Then, the Admin App is an independent application designed for administrators, allowing them to interact directly with the database and manage it. The most significant impact of this update is that, with all our data now stored in a database, we have abandoned the local encryption feature used in Evol 1 which involved encrypting XML files that served as records and saving them locally. Reading records has also shifted from accessing XML files to querying the database.

Additionally, we have introduced new features. Now, both professors and students have their own dedicated accounts. Each time they use the client, they must authenticate with their username and password, which can be changed at any time. Passwords are securely hashed using a salt before being encoded and stored in the database to ensure security. This method ensures

that plaintext passwords are never stored in the database. And, there are some noteworthy small new features, such as the ability for students to unsubscribe from weekly attendance reports for specific courses, and the implementation of attendance scores, among others. Moreover, to enhance user experience, we have added a back button to the process, ensuring that users are not stuck in a situation where they cannot easily navigate away from their current screen.