Group 7 Project - Reactive Data Systems

**Aim**

Make a traditional relational database system into an active database system.

**Abstract**

Reactive Banking Management System (RBMS): Banking Applications have certain innate predefined rules that need to be followed (e.g. If balance goes below specific amount incur penalty), usually these rules are defined in the server-side API calls. However, if we get the relational database to perform specific rule checking and appropriate implementations that helps with the speed and also makes the database more secure.

The approach we’ll be following is using the Java SAX Parser to read the rules and ultimately using ECA calls make the relational database work on those rules and update database content appropriately.

We would be using Relational and XML Data Models and implement mapping between the two. Below are the use cases that we would be incorporating to fulfill the goal of this project. We will also try to bring new use cases if possible and tweak the below ones.

**Use Cases of Reactive Banking Management System**

1. **When credited any amount, check the data. If it goes beyond a threshold then add this user to a special database and then send the user info to some third party, so that he can send some user benefits and all that.**
2. **Keep track of user activity, if the user has no transactions for the past week. Delete this user from current directory and send it to dormant user accounts relation and active user accounts.**
3. **If the balance goes below a specific value a penalty will be incurred on his account balance.**
4. **If password didn’t change for a specific period, send an alert if some event is triggered from the user, mostly when he tries to login.**
5. Database entry, non-mandate fields if no value is specified the database enters the appropriate value by itself.
6. **Depending on the number of transactions, update the value of credit score. For instance, if the user makes 10 transactions increment the credit score by 1.**
7. If the user is government official or a student, add apply certain insurance policies on the account.
8. **Quarterly end, deduct all the fee incurred for various bank services (Debit Card, Cheque Book, SMS Services).**