Project Design Document

Version1.0

Professor In-Charge

Prof. Ramanathan Chandrashekar

Team Members

Bisen Vikrantsingh Mohansingh(MT2012036)

Kodamasimham Pridhvi(MT2012066)

Vaibhav Singh Rajput(MT2012155)

Document Revision History

Version	Author	Date	Change	Reviewer	Approved
1.0	Vaibhav Singh, Pridhvi Kodamasimham	22-03-2013	First version	Vikrantsingh B	Yes

Contents

Reactive Data System [EDA]

Event-driven architecture (EDA) is a software architecture pattern promoting the production, detection, consumption of, and reaction to events.

Introduction

The purpose of this document is to describe the design of the project Reactive Data System[EdA].

Scope

This document covers the Architectural Strategies, System Architecture and the Detailed System Design associated with the project.

Intended Audience

This document is designed for all those who are involved in the software development process directly or indirectly to provide information namely features and functionality of EDA.

.

System Overview

The aim of this project is to develop Reactive data System based on Event Driven Architecture which promotes production, detection, consumption and reaction to the events. EDA will act as a framework, on which event based applications will run.

The system developed must be scalable and handle a large number of users. The high level view of the system is as follows:

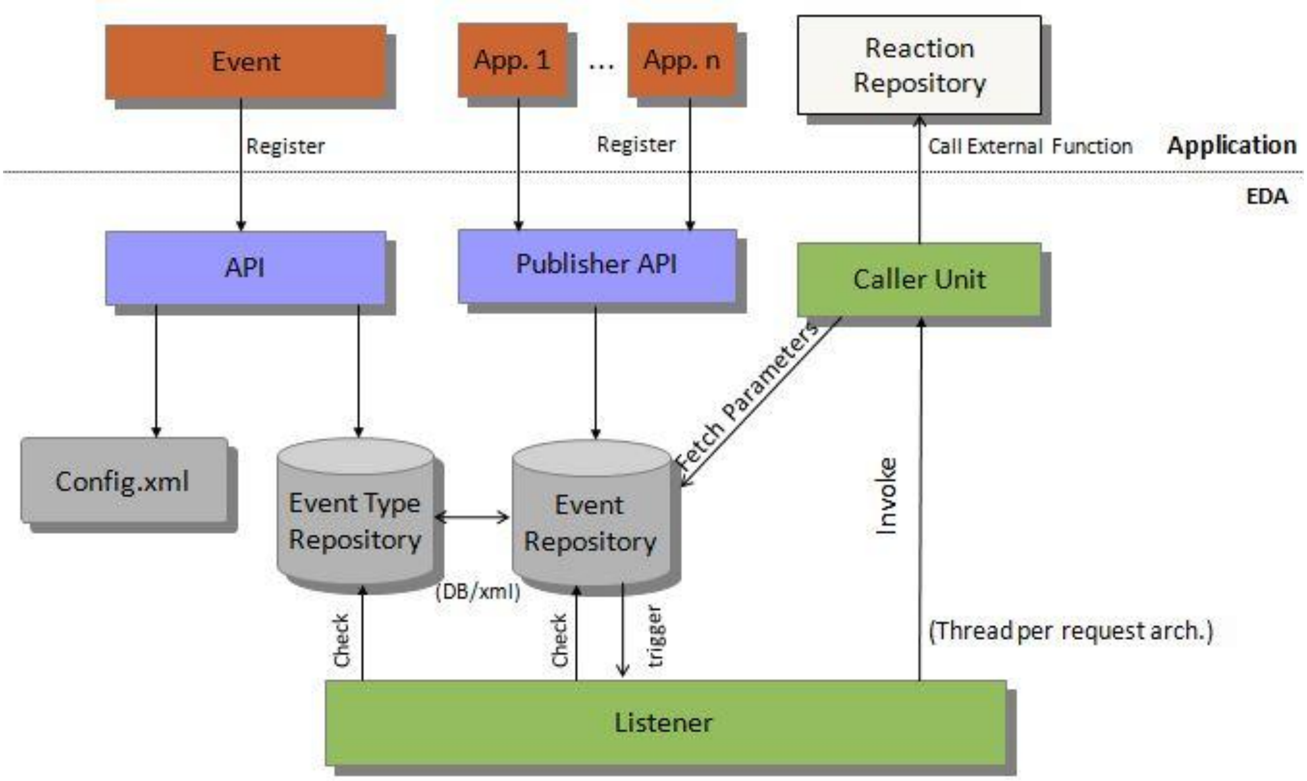


Figure 1: High Level View of System Architecture

Design Considerations

The following points have to be taken into consideration while designing the system:

1. Simple user graphical user interface (GUI)
2. Any Event based application should be able to use it.
3. It should be platform independent.
4. Performance tuning of the system.

Assumptions and Dependencies

Following are the assumption made and dependencies which are required to meet.

1. Database and web server should work properly and compatible with different system.
2. Site's resolution should be suitable considering varying browser types.
3. The administrator should be well experienced of handling computer system.

General Constraints

Following are the general constraints:

1. Do's
   a. The files in which the information regarding securities and portfolios should be secured against malicious deformations.
   b. Data should not become corrupted in case of system crash or power failure.
   c. Support Re-Engineering and Component Based Development to save time and money.
2. Don'ts
   a. Use of platform dependent tools should be prohibited.
   b. Development from scratch.

Goals and Guidelines

The project goal is to get a fully functional Event Driven Architecture which can be used as framework for developing event based applications.

The guideline for development is to get a working prototype built as soon as feasible and improve it incrementally. The change/ improvement/enhancements should be well tested and documented.

Development Strategy

The incremental model is the development strategy that will be implemented during the development of the project.

This allows us to have an initial working model of the software and can be easily deployed and further enhancements can be added as when they are completed.

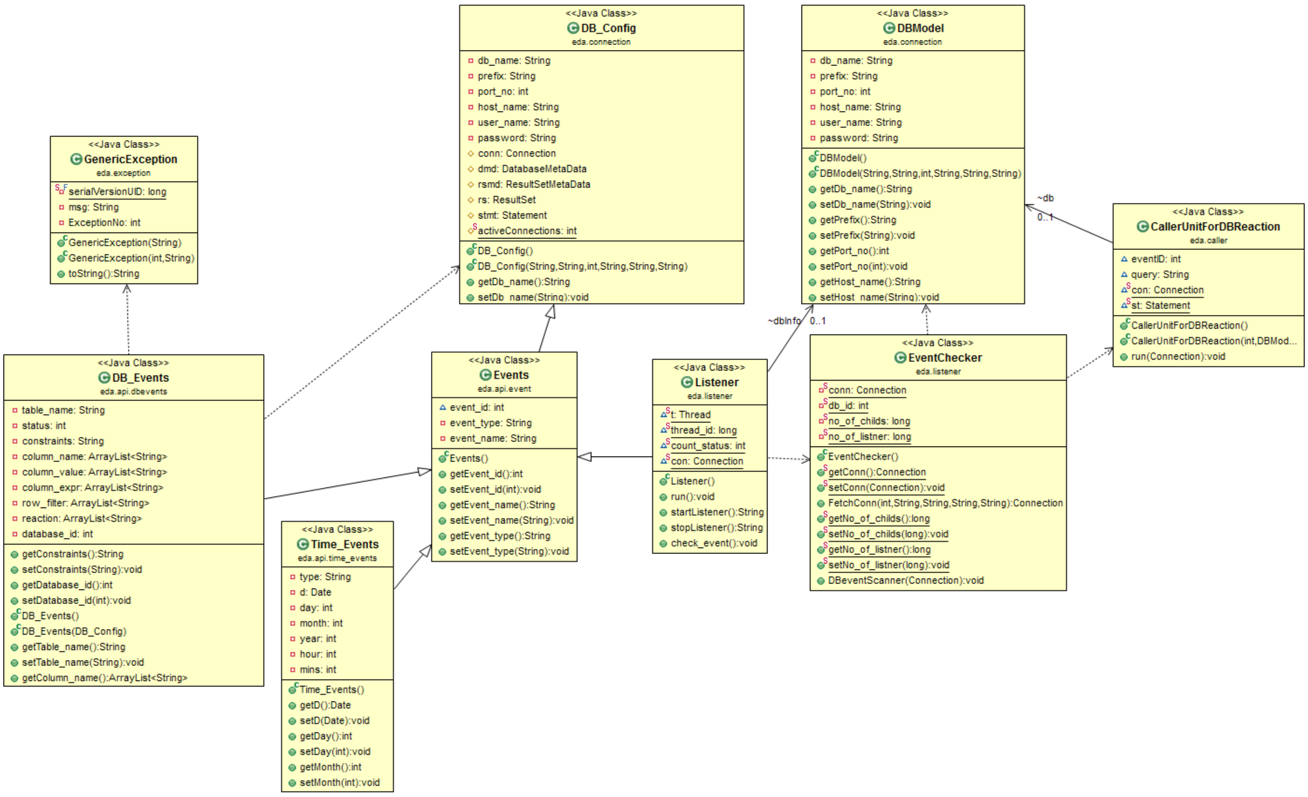
Architectural Strategies

Event Driven Framework which will consist of mainly three components Event, Dispatcher and Action. EDA is generic framework which can be used by almost any event driven application. For demonstrating our RDS we've selected Universal admission process involving multiple Universities and students.

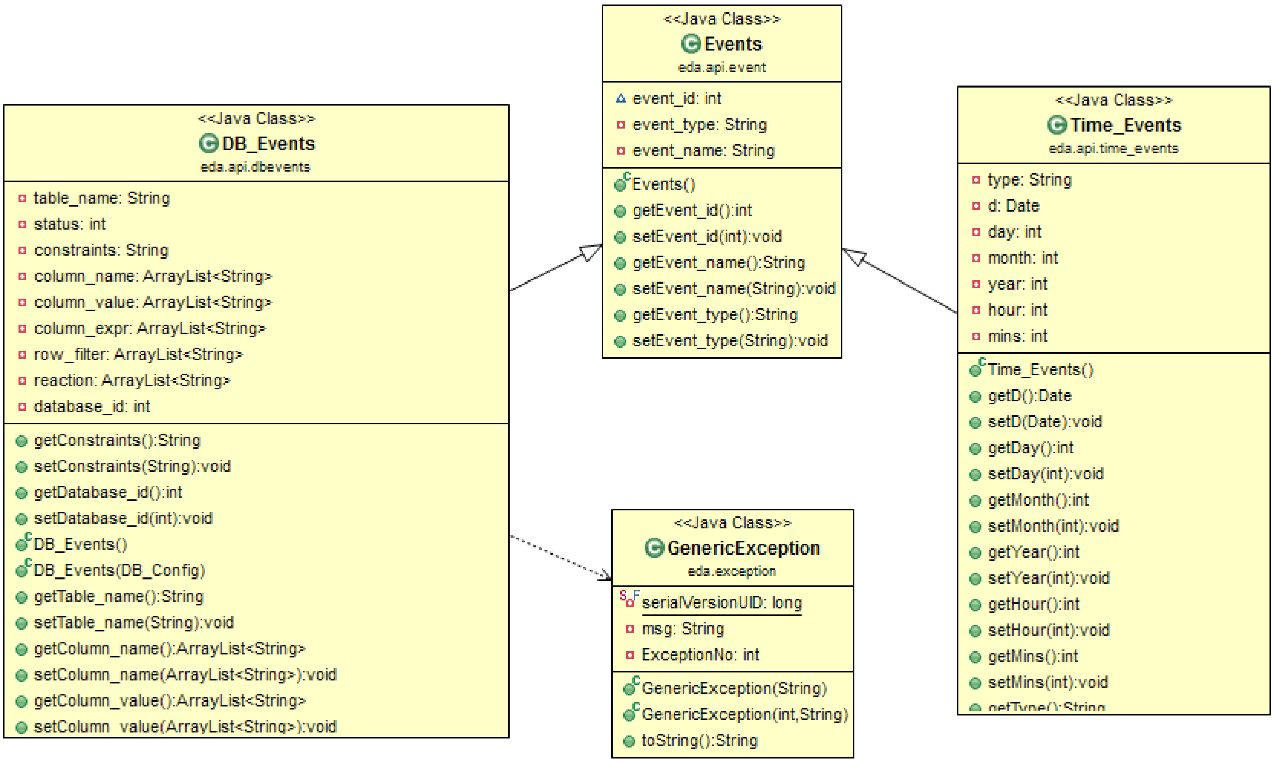
Detailed System Design

The class diagram that describes the design of the objects that would be utilized as part of the project is as below

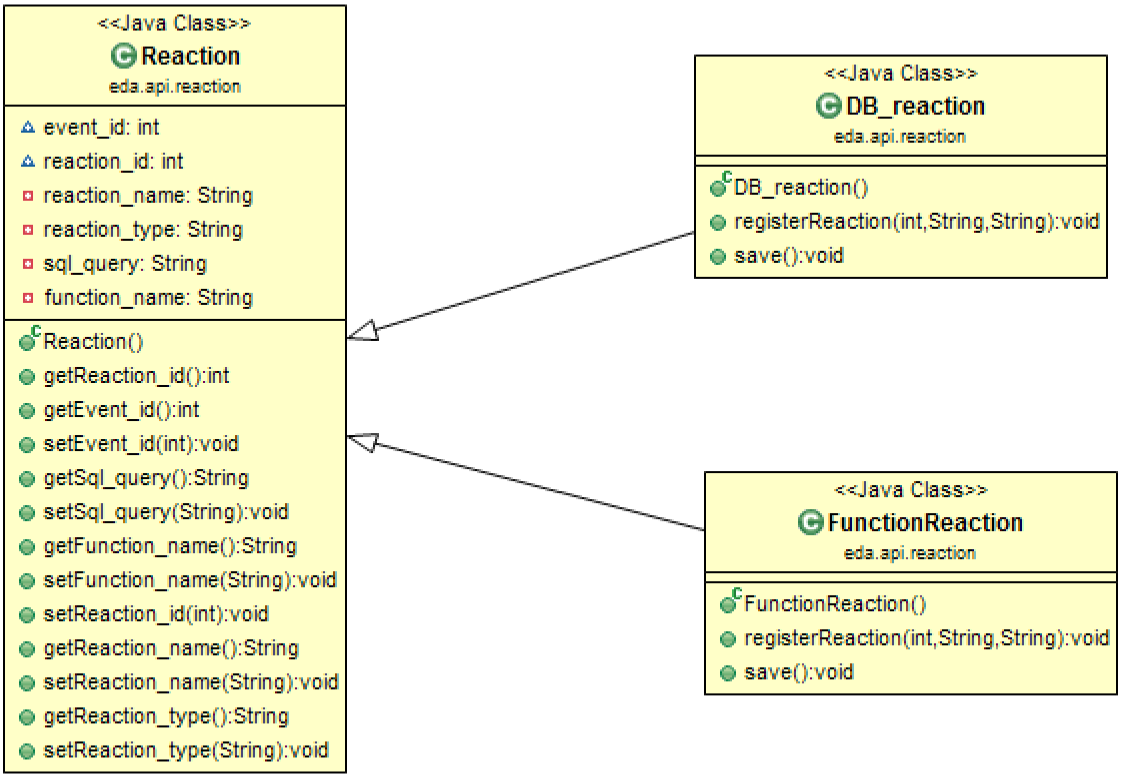
Overall Class Diagram



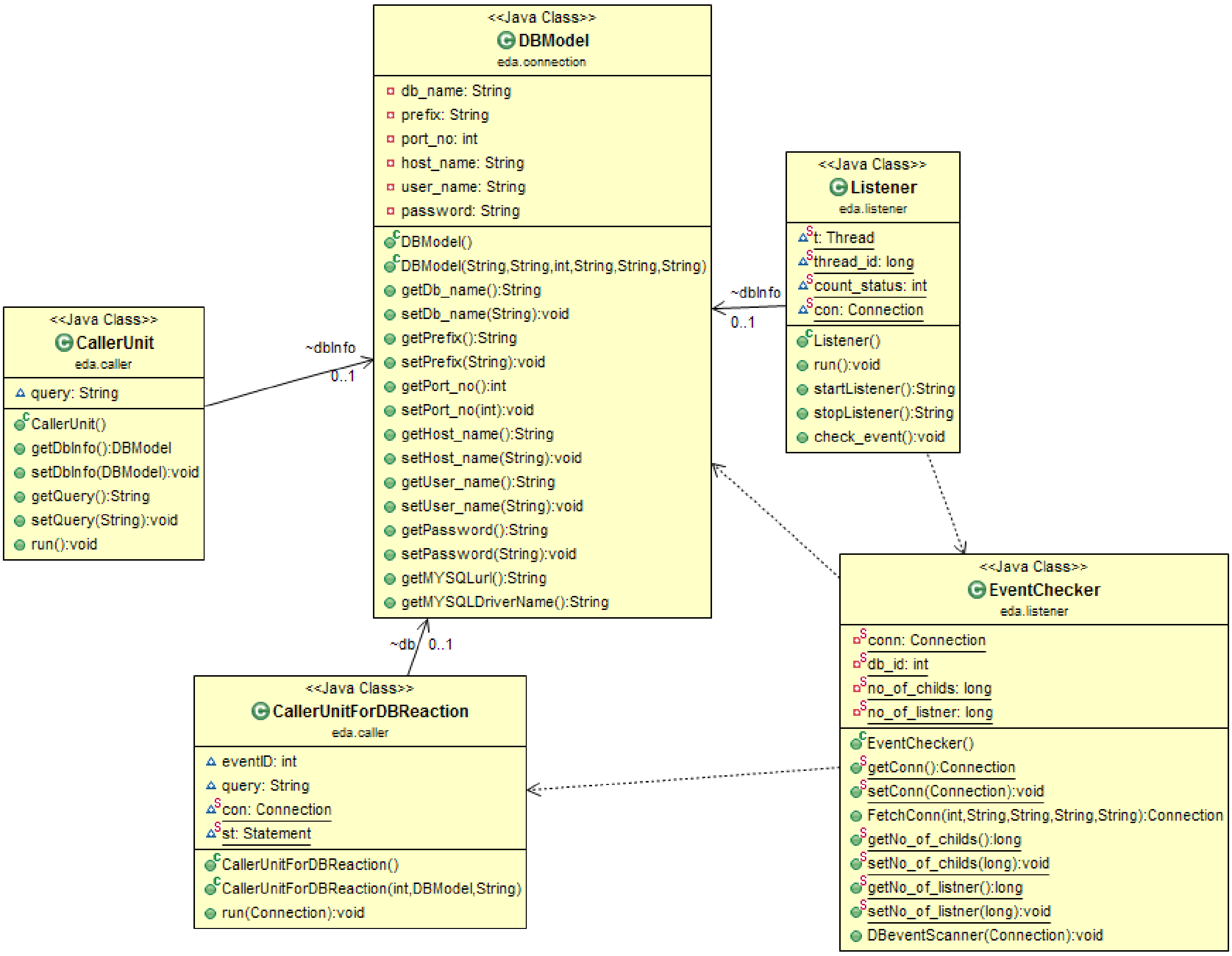
EDA Events Class Diagram



EDA Reaction Class Diagram

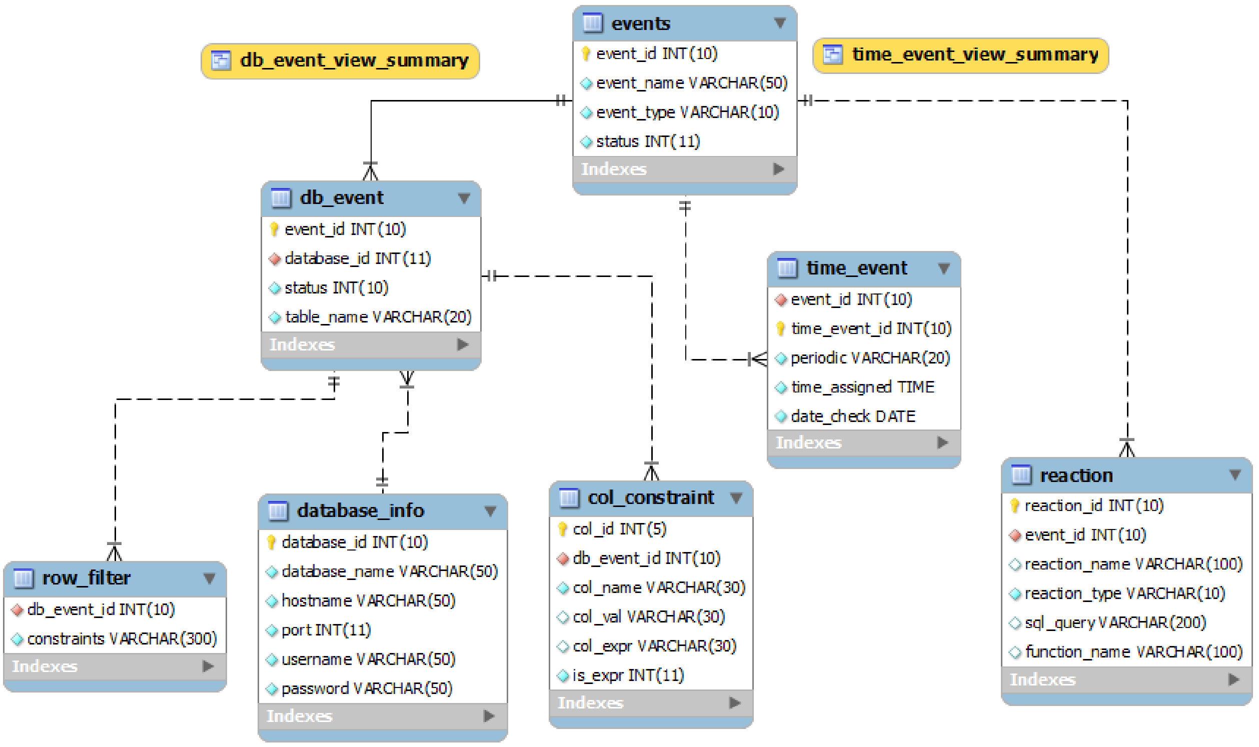


Listener and Caller Class Diagram

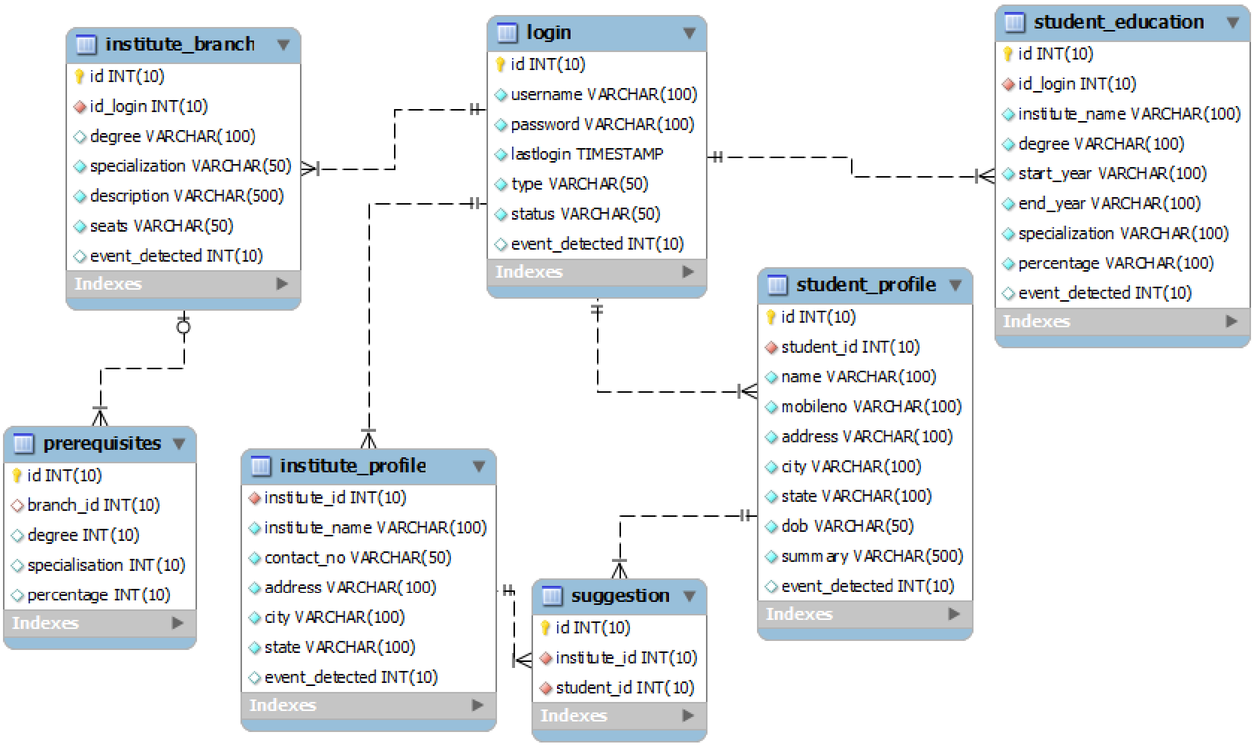


Database Schema Design

EDA Schema

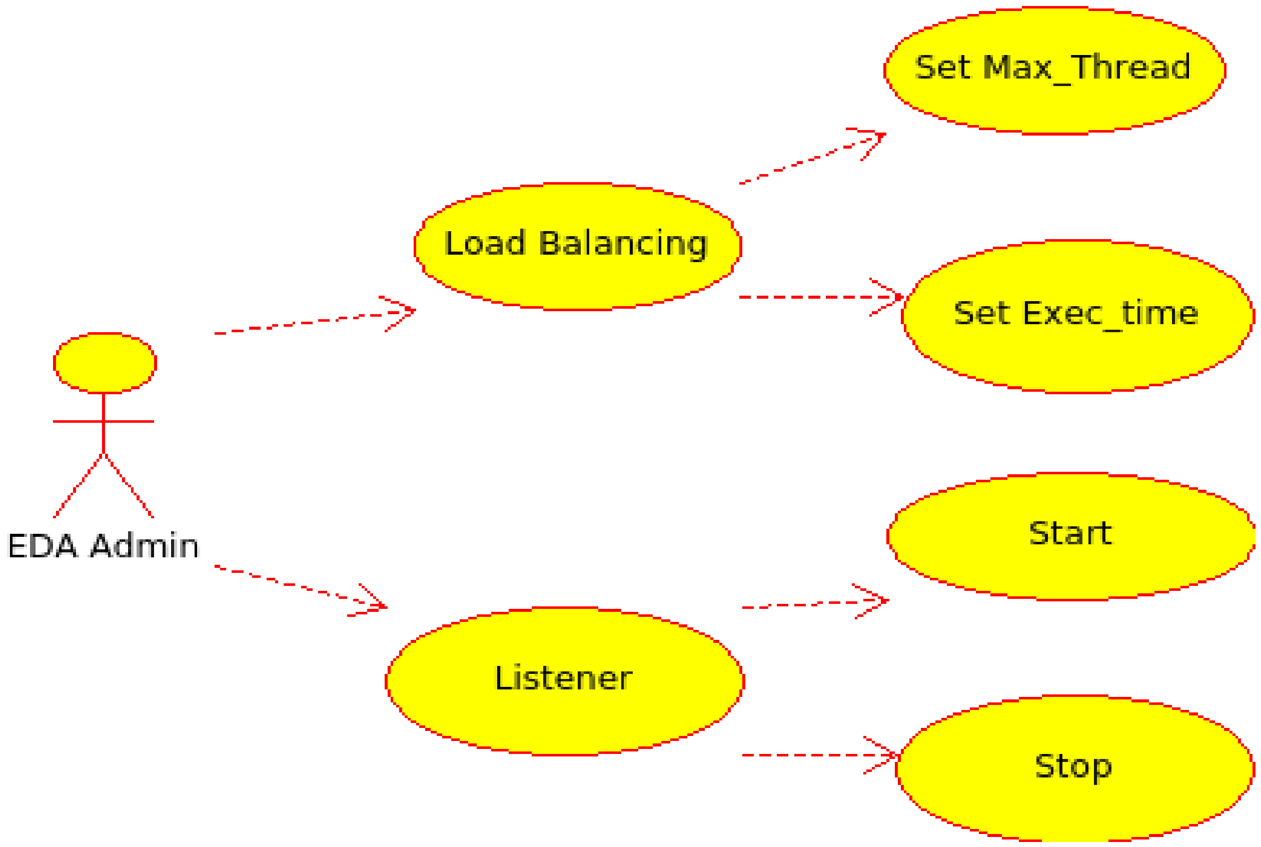


Universal Schema

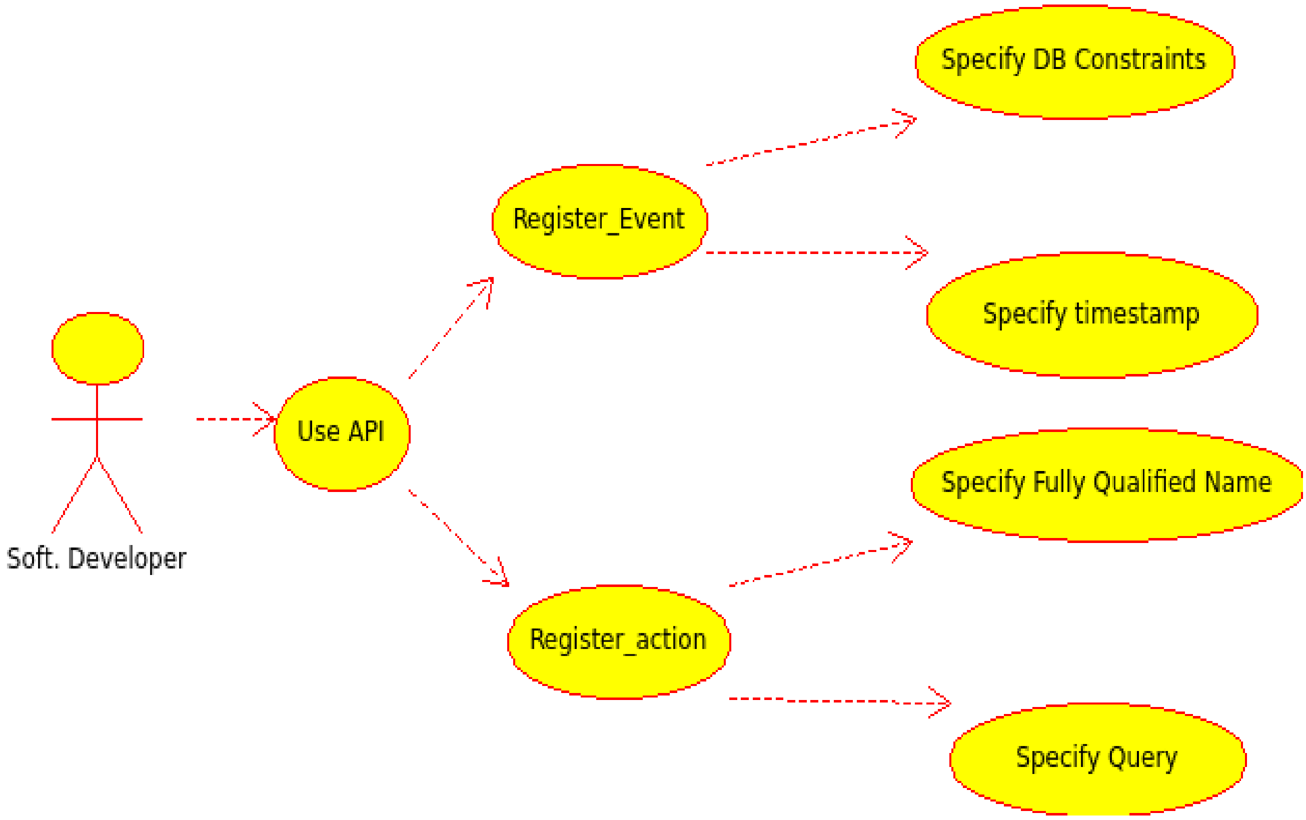


Use Case Diagrams

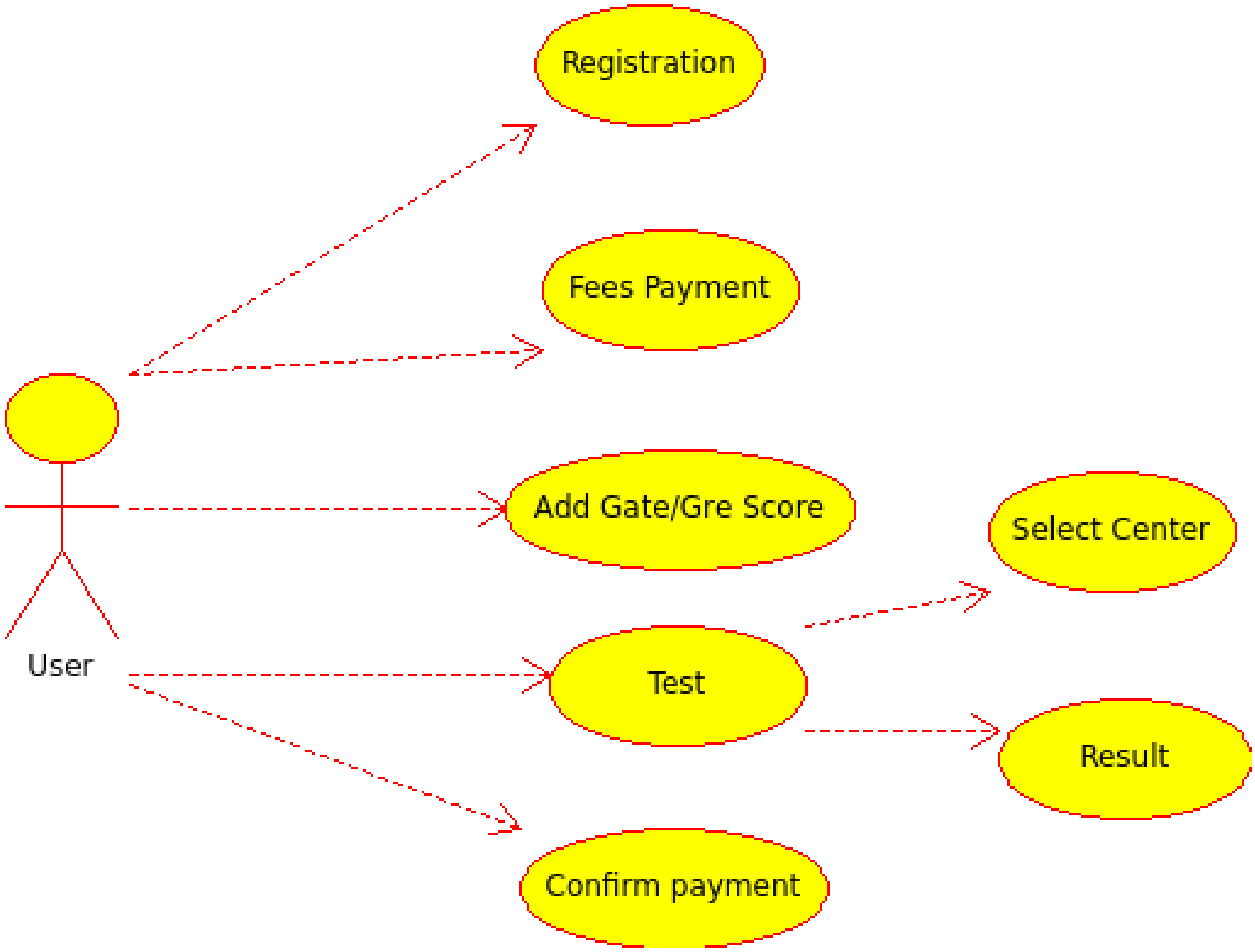
EDA Admin



Software Developer



End User



Testing Strategies:

The testing strategy for the project is as described in the Test Strategy Document.