Software Engineering Semester 3
Design Document
Online Yearbook
May 2021
Spartex

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Version history

Version	Date	Author(s)	Changes	State
1.0	18/05/2021	Osuntuyi Michael	Document was made	Complete

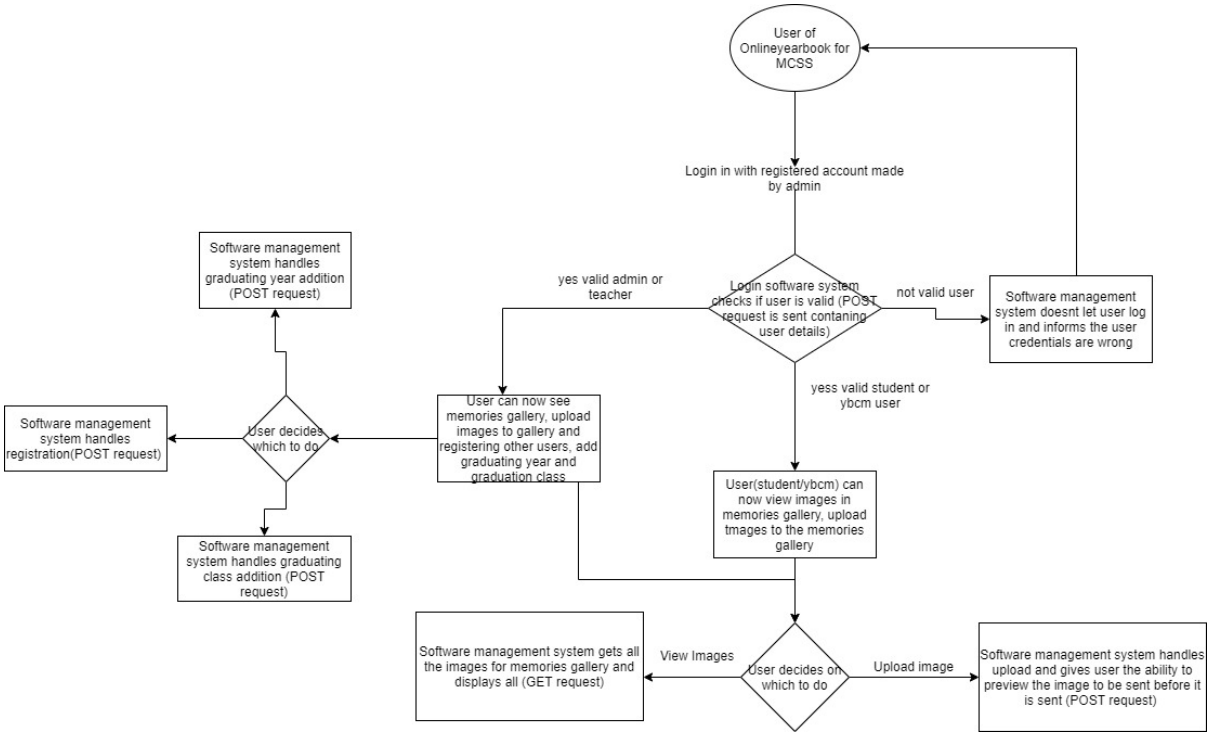
Table of Contents

Introduction:

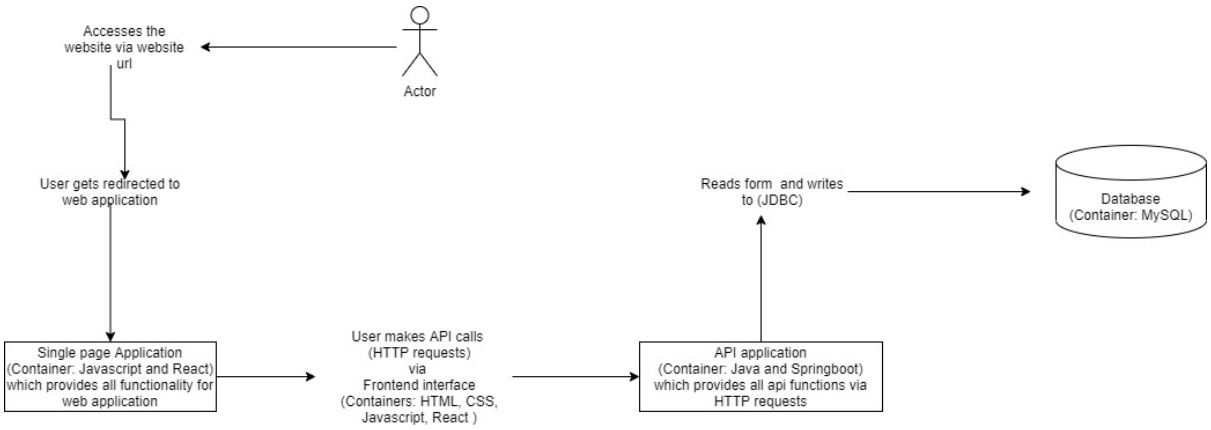
This document contains all valuable information about the Architecture, Technologies and Integrity status of the current onlineyearbook project version

C4 diagrams

Level1: How it works in a nutshell (Context)



Level2: Containers



Level3: Architecture diagram

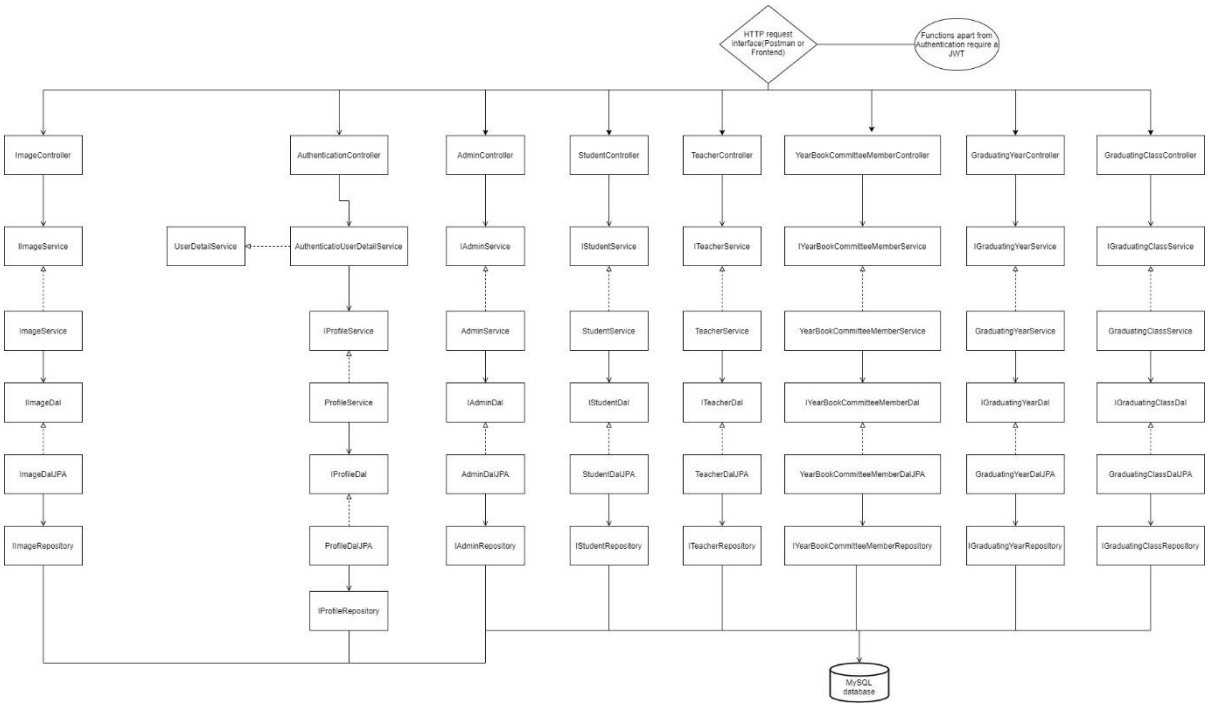
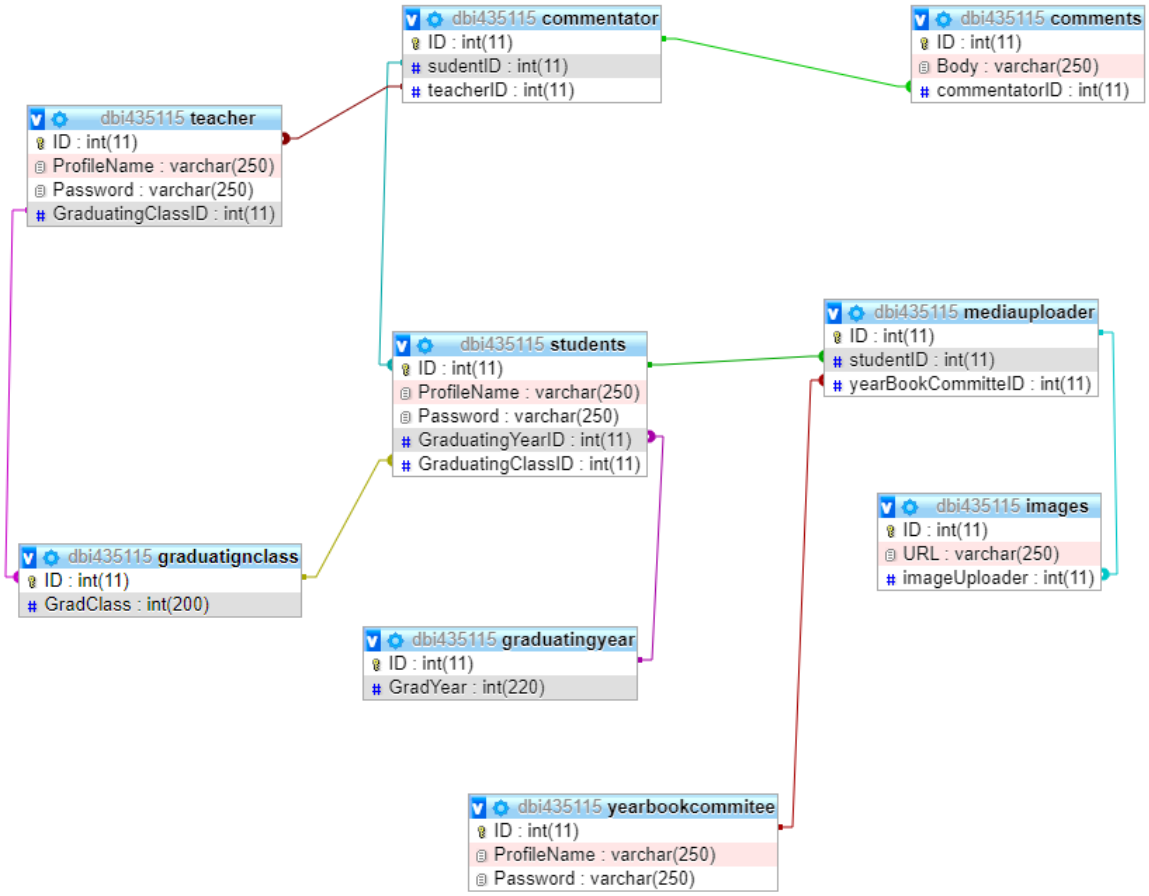


Diagram Link

The link below is provided for better viewing:

architecturediagram (1).html

Level4: Code structure and DB Design (UML, ERD)



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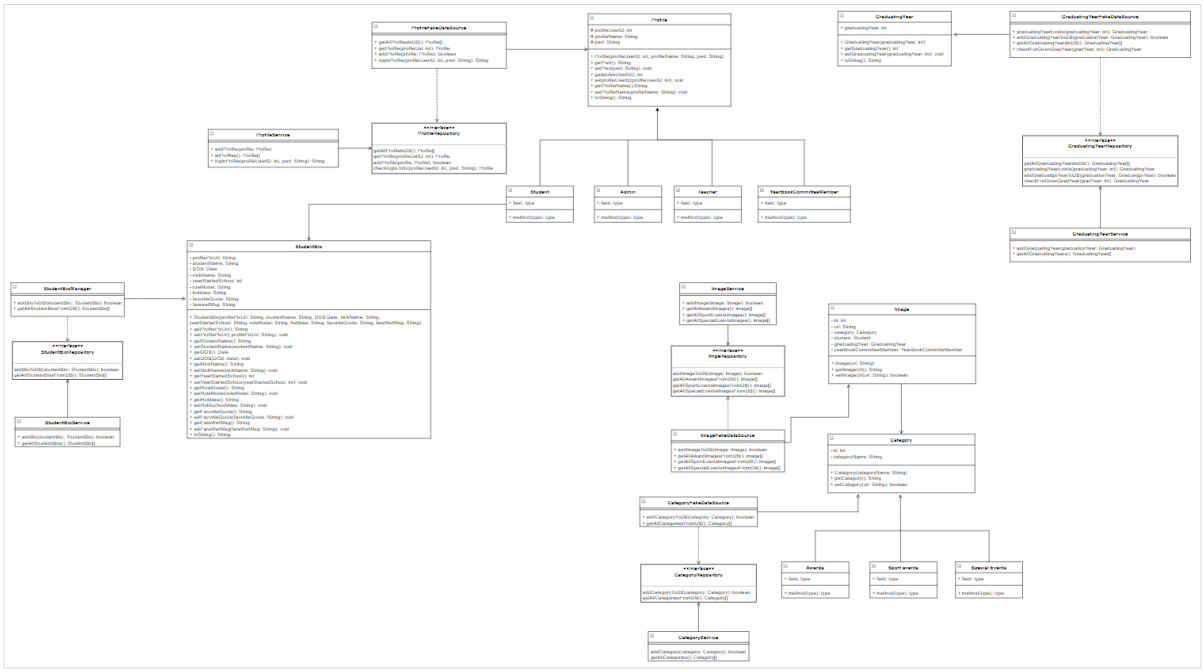


Diagram Link

The link below is provided for better viewing:

onlineyearbookuml.html

BackEnd Decisions

Java Spring boot Framework:

Spring boot is the framework used in this application mainly due to it making production ready application easy to create, a good example is with spring boot there is an already embedded tomcat support which makes connecting to a database easier.

BCrypt for encryption

After researching, I found that bcrypt is a password hashing system mainly used for encrypting passwords at a strong encryption level for storing in a database, therefore due to this application will be storing user personal details it has been integrated to ensure guaranteed safety.

Hibernate

After researching, I found that hibernate make querying a database easier to it being an ORM tool rather than using JDBC CRUD queries, hibernates handles all the implementations of CRUD functions internally thus we can access them using API calls which makes production faster.

Spring Security

After researching, I found that for authentication and authorization it is best to use spring security being that it already contains all the necessary functions for securing your api by using servlet filters that help add authentication and authorization to a web application and also it integrates well with my chosen Java framework Spring boot.

References

Spring security

(MarcoBehler, 2020)

Spring boot

(Spring writier, n.d.)

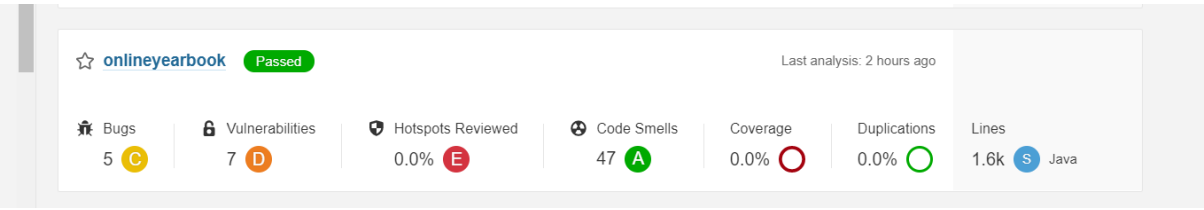
BCrypt

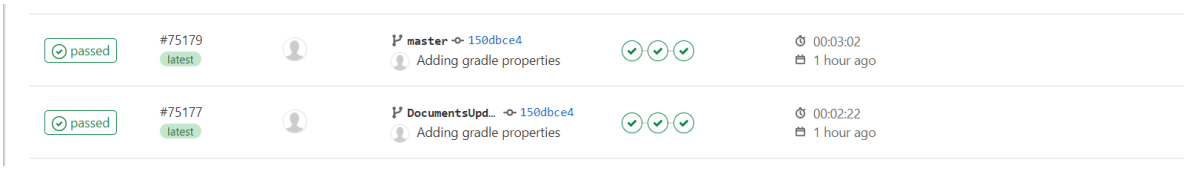
(Accaputo, n.d.)

Hibernate

(Waseem, 2019)

Sonarqube Screenshot (Quality assurance metrics)





CI CD Setup