Software Engineering Semester 3
Design Document
Online Yearbook
June 2021
Spartex

Date: 20**/06/2021**	
Version:3.0	
State: Completed	
Author: Osuntuyi Michael	

Version history

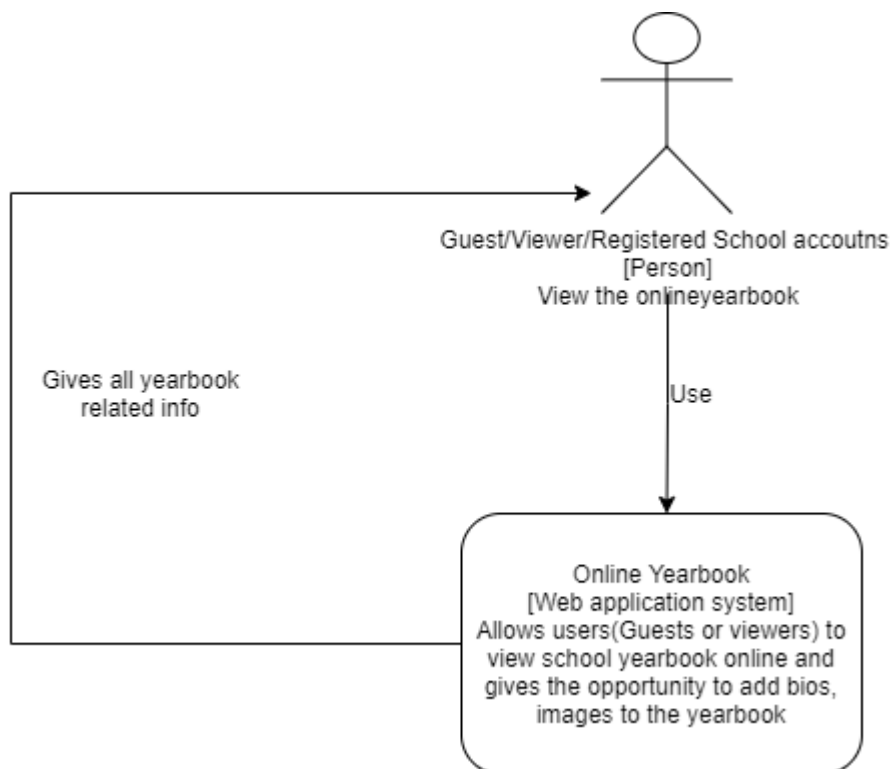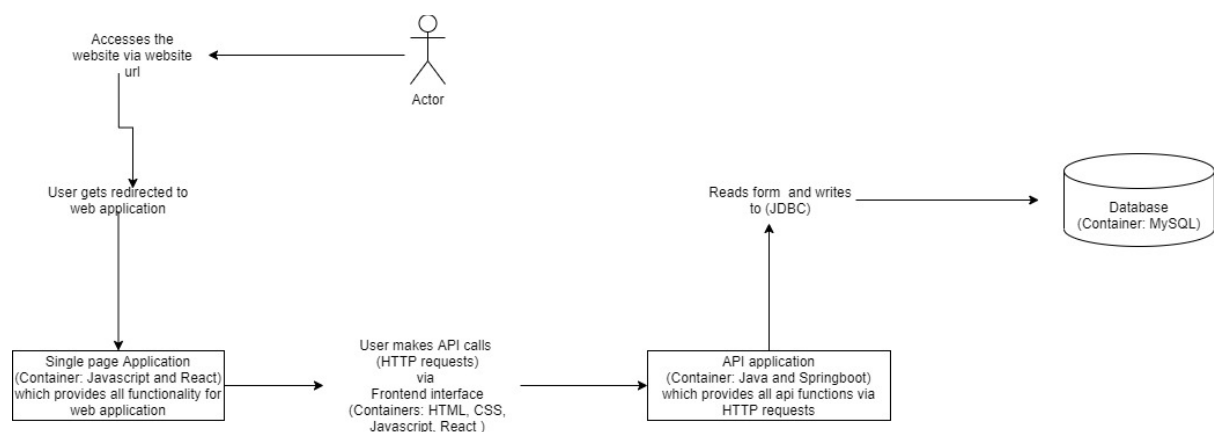| Version	Date	Author(s)	Changes	State
1.0	18/05/2021	Osuntuyi Michael	Document was made	Complete
2.0	05/06/2021	Osuntuyi Michael	Document was edited	Almost Completed
3.0	20/06/2021	Osuntuyi Michael	Document was edited	Complete

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

Context

Guest/Viewer/Registered School accoutns
[Person]
View the onlineyearbook

Gives all yearbook related info

Use

Online Yearbook
[Web application system]
Allows users(Guests or viewers) to view school yearbook online and gives the opportunity to add bios, images to the yearbook

Containers

Accesses the website via website url

Actor

User gets redirected to web application

Reads form and writes to (JDBC)

Database
(Container: MySQL)

Single page Application
(Container: Javascript and React) which provides all functionality for web application

User makes API calls
(HTTP requests)
via
Frontend interface
(Containers: HTML, CSS, Javascript, React)

API application
(Container: Java and Springboot) which provides all api functions via HTTP requests
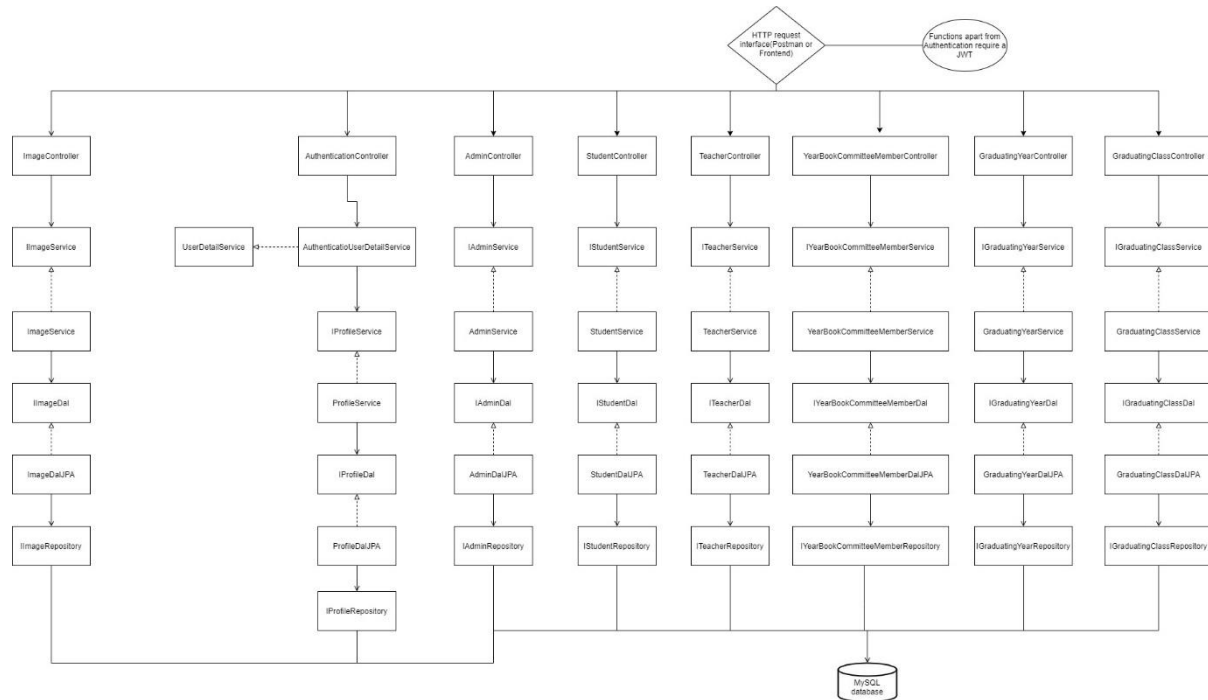
Architecture diagram

Diagram Link

The link below is provided for better viewing:

architecturediagram
(1).html

Database Design Info

onlineyearbookdb.pd
f

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 (Spring writier, n.d.), 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 (Accaputo, n.d.), 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 (Waseem, 2019).

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 (MarcoBehler, 2020) and it integrates well with my chosen Java framework Spring boot.

References

Spring security

(MarcoBehler, 2020)

Spring boot

(Spring writier, n.d.)

BCrypt

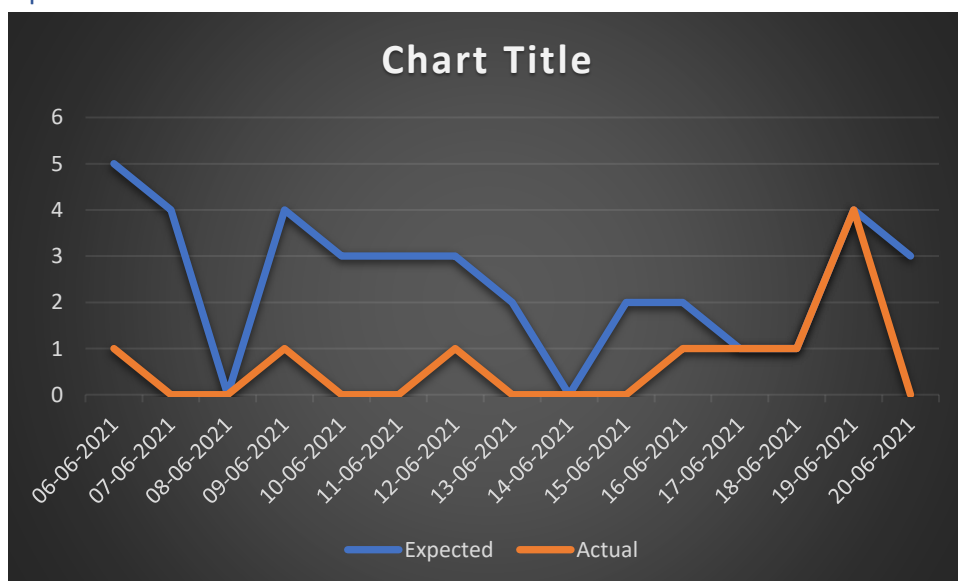(Accaputo, n.d.)

Hibernate

(Waseem, 2019)

CI CD Latest overview

Status	Pipeline	Triggerer	Commit	Stages	Duration	
✓ passed	#83031 latest	👤	⌐ master ─∘ f3ed454c 👤 Added new features to ima...	✓✓✓✓✓	📅 1 day ago	⋮
✓ passed	#83030 latest	👤	⌐ DocumentsUpd... ─∘ f3ed454c 👤 Added new features to ima...	✓✓✓✓✓	🕐 00:41:57 📅 1 day ago	⋮
✓ passed	#82671	👤	⌐ master ─∘ 310a661d 👤 Farewell Messgages add,edi...	✓✓✓✓✓	🕐 00:14:13 📅 2 days ago	⋮
✓ passed	#82670	👤	⌐ DocumentsUpd... ─∘ 310a661d 👤 Farewell Messgages add,edi...	✓✓✓✓✓	🕐 00:10:22 📅 2 days ago	⋮
✓ passed	#82567	👤	⌐ master ─∘ c87680c1 👤 Student bio feature backen...	✓✓✓✓✓	🕐 00:18:43 📅 3 days ago	⋮
✓ passed	#82561	👤	⌐ DocumentsUpd... ─∘ c87680c1 👤 Student bio feature backen...	✓✓✓✓✓	🕐 00:13:02 📅 3 days ago	⋮

CI CD Setup
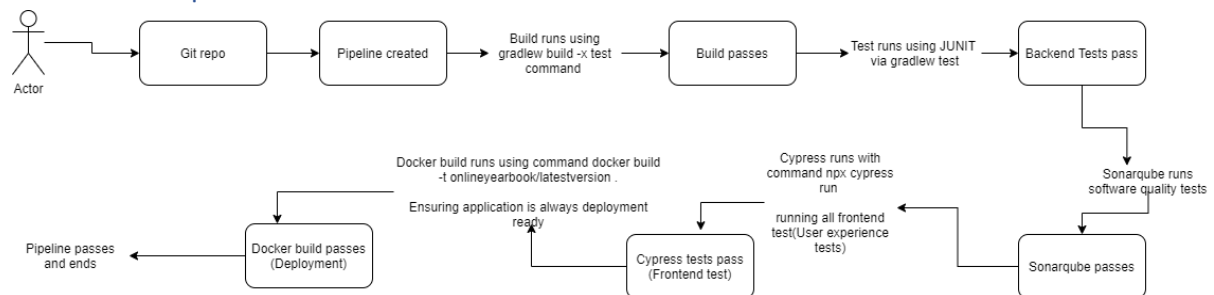
Sprint Burnt Down Chart

Versioning table

Sprint	Functionality
Sprint 1	Mock-up designs
Sprint 2	Basic CRUD operations
Sprint 3	Login Authentication, Authorization, Sonarqube addition
Sprint 4	Image Uploading with the use of BLOB, More CRUD operations
Sprint 5	Proper Authentication and Authorization implemented, Frontend design changes
Sprint 6	Major CRUD operations (e.g uploading images depending on a category, viewing images depending on graduation year selected) regarding application, more frontend designs, CI and CD implemented