

TDL Assignment

Presentation

Sehun Babatunde

Introduction

- I'm Sehun :)
- Joined QA – December 2020
- Always had a interest in technology (video games FTW!) Graduated from a software engineering degree in July 2020

Consultant Journey

- Git (Three feature branch model) & Github
- Java Programming Language
- OOP Concepts
- Project Management (Jira, user stories, acceptance criteria)
- Unit Testing (JUnit)
- Maven
- MySQL (SQL, Workbench)
- New: Mockito, Selenium, HTML, CSS, JavaScript

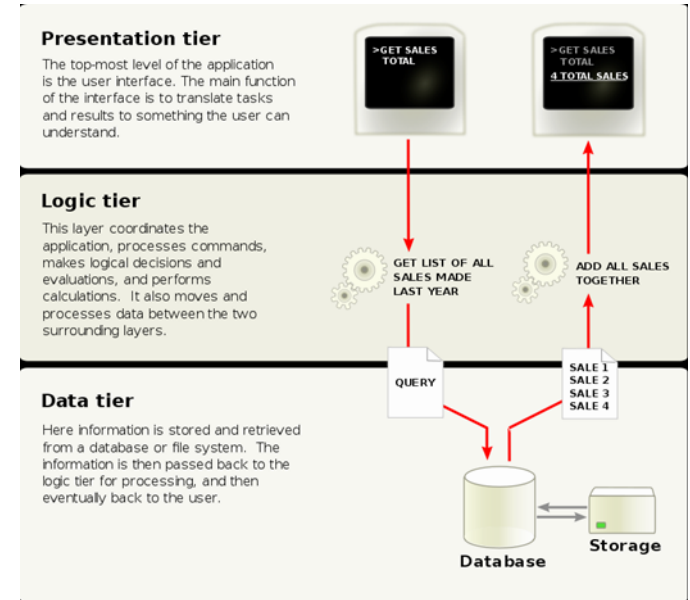
Approach - Previous CRUD Applications

Prescription Management site via LAMP stack
(Linux, Apache MySQL, PHP)

Dissertation - mobile app art marketplace – CRUD
functions (Add users, add art)

IMS Assignment – Aim to improve

Password Generator Weekend project – Improve and
practice my skills and knowledge of HTML, CSS,
Javascript, understanding DOM, HTML elements etc



Three- Tiered
Architecture model

List_v

Create

Update

Display

Delete

Tasks_v

Display List



Get ID:

1

Shopping List

1. Buy Milk

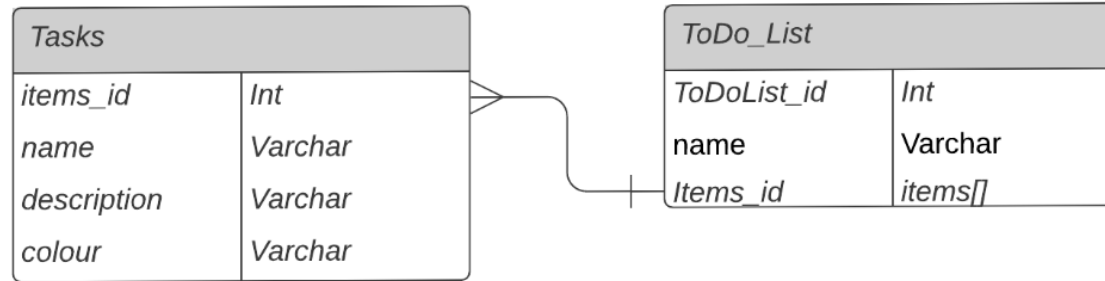
Status: RED

Desc: Semi Skimmed!

Design Draft

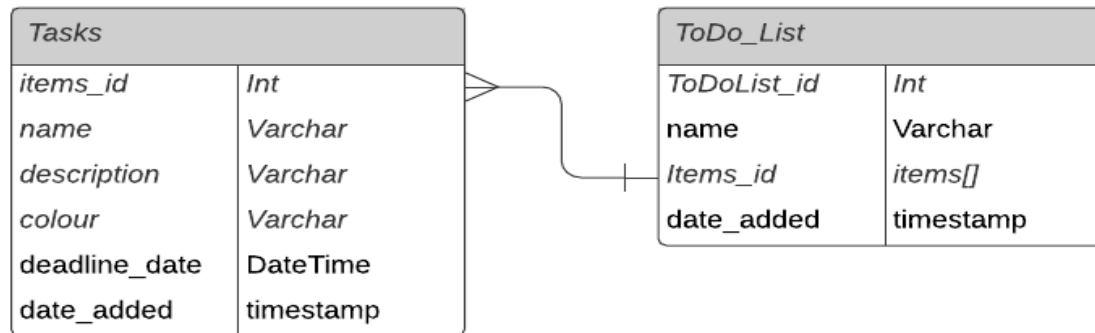
Sehun TDL Assignment - Pre UML Diagram

sehun babatunde | February 10, 2021



Sehun Copy of TDL Assignment - Pre UML Diagram

sehun babatunde | Improved idea



Risk Assessment

Sehun Babatunde – TDL Assignment

Risk	Risk Statement	Response strategy	Objectives	Likelihood	Risk Level
GitHub	Any source code pushed to GitHub could potentially contain information that hackers would find useful when trying to a maliciously alter the project. The source files could potentially contain hard-coded login credentials which could allow for data leaks.	Use stronger passwords and usernames than just “admin” or “root”, and keep them regularly updated.	Reduce the likelihood of hacking and data leaks.	Medium	Medium-to-High
Development Computer	My hard drive on my computer that contains my assignment work could fail would could result in data loss me losing my project work.	Use the git commit and branch system on GitHub to break down each task so I can roll back features if I have accidentally overwritten work. The files will be also stored at GitHub's end. Keep regular backups to pen drives , external hard drives and I could use cloud platforms such as OneDrive and Google Cloud to have additional off-site backup.	Reduce the likelihood of data loss	Medium	High
Covid / other illnesses	Me or my immediately family catches Covid-19 or other illnesses .	Maintain social distancing with outside strangers . Wear a mask while going outside and other external activities while outside my home. Avoid unnecessary travel	Reduce the likelihood of catching COVID-19 or any other illnesses.	Medium	Medium-to-High
Software/	One of the software tools	Keep regular backups and maintain	Reduce the risk of IMS	Medium	Medium-to-High

Must have : Full CRUD functionalities , website front end, two entites, a full working and runnable fat jar of the final application , git repository utilising the feature-branch model , main branch must compile, completed projected management board using jira, presentation, ERD diagram, UML Diagram, Junit tests, mockitio,

Should Have: Junit tests of entire application, 80% test coverage of the entire src/java/main folder, a completed README.md , swagger documentation

Could Have: Capture a timestamp, when an task ii made, A MySQL database linked to the application, single page application. Deadlines added to tasks ans list to fulfil

Will not have: Moblie app

IMS Assignment Risk Matrix - Sehun Babatunde

Potential Consequences

Likelihood			1. Github	5. Stuck on a problem	2. Development Computer	6. Time Management	3. Covid / other illnesses	
			Not Significant	Minor	Moderate	Major	Severe	
	Expected to occur regularly under normal circumstances	Almost Certain	Low	Medium	Low	Medium	Low	
	Expected to occur at some time	Likely	Low	High	Low	High	Low	
	May occur at some time	Possible	Low	High	Medium	High	Medium	
	Not likely to occur in normal circumstances	Unlikely	Medium	Low	Medium	Low	Medium	
	Could happen, but probably never will	Rare	Medium	Low	Medium	Low	Medium	

Likelihood			8. Project Bugs	6. Stress/Burnout	7. Time Mismanagement	4. Software repo/tools corrupting/broken	Website CDN deper	User has JavaScript disabled
			Minor	Moderate	Major	Major	Moderate	Moderate
	Expected to occur regularly under normal circumstances	Almost Certain	High	Low	Low	Low	Low	Low
	Expected to occur at some time	Likely	High	Medium	Medium	Low	Low	Medium
	May occur at some time	Possible	High	Medium	Medium	Medium	Low	Medium
	Not likely to occur in normal circumstances	Unlikely	Low	Low	High	High	High	Medium
	Could happen, but probably never will	Rare	Low	Low	Medium	High	Medium	Low

CI – Version Control

- The o'l reliable: Three feature branch Model
- Benefits: Continuous Integration & Development
- Don't break the main branch
- Rollbacks!

Default branch



main Updated 14 days ago by SehunB-QA

Default



Your branches

dev Updated 3 hours ago by SehunB-QA

0 | 59

New pull request



feature-testing Updated 3 hours ago by SehunB-QA

0 | 41

#15 Merged



feature-frontendtasks Updated 3 days ago by SehunB-QA

0 | 37

#13 Merged



feature-frontendlists Updated 4 days ago by SehunB-QA

0 | 29

#10 Merged



feature-frontenddev Updated 6 days ago by SehunB-QA

0 | 15

New pull request



[View more of your branches](#) >

Active branches

dev Updated 3 hours ago by SehunB-QA

0 | 59

New pull request



feature-testing Updated 3 hours ago by SehunB-QA

0 | 41

#15 Merged



feature-frontendtasks Updated 3 days ago by SehunB-QA

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feature-frontenddev Updated 6 days ago by SehunB-QA

0 | 15

New pull request





SehunB-QA To-Do List ...
Next-gen software project



Roadmap



Backlog



Board



Reports



Code



Project pages



Add item



Project settings



You're in a next-gen project

[Give feedback](#) [Learn more](#)

Projects / SehunB-QA To-Do List Web Application

SQTDLWA Sprint 1



SB



Epic ▾

Type ▾



0 days remaining

Complete sprint

GROUP BY

None

TO DO 3 ISSUES

Create a updated post-development ER Diagram of the TDL database for the TDL application web application assignment

TDL - DOCUMENTATION

✓ SQTDLWA-44

SB

Create a post-development UML diagram of the TDL classes structure for the TDL application assignment

TDL - DOCUMENTATION

✓ SQTDLWA-49

SB

Create Integration Tests and execute

IN PROGRESS

DONE 33 ISSUES ✓

Create a design of the TDL frontend/website

TDL - DOCUMENTATION

✓ SQTDLWA-46

✓

SB

Create a pre UML diagram of the TDL application web application assignment

TDL - DOCUMENTATION

✓ SQTDLWA-45

✓

SB

Create a frontend for the TDL application assignment

TDL FRONTEND



Quickstart

Testing

Why use JUnit & what's the purpose of Unit Testing? –

To confirm that our program and it's behaviour works as intended!

We also used Mockito & Selenium

Mockito – Mock class functionality

Selenium – Test Front end



Mockito can perform fake operations mapping our actual functions!

```
86
87  @Test
88  public void readByIDTest()
89  {
90      Long testID= 2L;
91
92      testListDTO = mapToDTO(testToDoList);
93
94      Optional<ToDoList> list = Optional.of(this.testToDoList);
95      Mockito.when(this.toDoListRepo.findById(testID)).thenReturn(list);
96      Mockito.when(mockMapper.map(testToDoList, ToDoListDTO.class) ).thenReturn(testListDTO);
97      ToDoListDTO result = this.toDoListService.readListByID(testID);
98
99
100     assertEquals(testListDTO,result);
101
102     Mockito.verify(this.toDoListRepo, Mockito.times(1)).findById(testID);
103 }
104
105
106
107  @Test
108  public void readByNameTest()
```

*FrontEndToDoListSelenuimTest.java X

```
21
22 @BeforeAll
23
24 public void setup() {
25     System.setProperty("webdriver.chrome.driver", "src/test/resources/chromedriver.exe");
26     driver = new ChromeDriver();
27     driver.manage().window().setSize(new Dimension(1366,768));
28 }
29
30 @Test
31 public void TestCreate() throws InterruptedException{
32     driver.get("http://localhost:9094/index.html");
33     WebDriverWait wait = new WebDriverWait(driver, 30);
34
35     WebElement toDoListNavBarLink = driver.findElement(By.xpath("/html/body/div[1]/button[1]"));
36     toDoListNavBarLink.click();
37
38     WebElement createToDoListPageLink = driver.findElement(By.xpath("/html/body/div[1]/div[1]/a[1]"));
39     createToDoListPageLink.click();
40
41     WebElement toDoListTextBox = driver.findElement(By.xpath("/html/body/form/div/input"));
42     toDoListTextBox.click();
43     toDoListTextBox.sendKeys("SHOPPING LIST");
44
45     WebElement pageBackground = driver.findElement(By.xpath("/html/body/div"));
46     pageBackground.click();
47
48     WebElement createNewListButton = driver.findElement(By.xpath("/html/body/form/div/button"));
49     createNewListButton.click();
50
51     WebElement listCreatedText = driver.findElement(By.xpath("/html/body/form/div/p[1]"));
52     wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("/html/body/form/div/p[1]")));
53
54     assertEquals("List Created!", listCreatedText.getText());
55 }
```


Overview Dependencies Dependency Hierarchy Effective POM **pom.xml**

com.qa.tdassignmentbackend (22 Feb 2021 02:43:49)

Element	Coverage	Covered Instructions	Missed Instructions	Total
TDAssignmentBackend	92.6 %	1,687	135	
src/main/java	71.0 %	325	133	
com.qa.tdassignmentbackend	37.5 %	3	5	
com.qa.tdassignmentbackend.config	100.0 %	7	0	
com.qa.tdassignmentbackend.controller	100.0 %	139	0	

The Fun Part: The demo!

Sprint Review

Jira Board - <https://sehunqaimsassignment.atlassian.net/jira/software/projects/SQTDLWA/boards/2>

Complete: Full working frontend and backend , unit tests of controllers, most unit tests of services, front end test of todolist

Left of: Junit testing of update function in services, integration tests,

Sprint Retrospective

Overall : Went well and helpful

- Improved test coverage and skills from last project

Things to improve: More breakdown of tasks

- Full Junit tests of the services, integration tests, 80+ test coverage
-

Conclusion

Successes :

- I have learned a lot
- Proud of project
- Good Challenge & working project
- Met great people

Improvements and moving ahead:

- Don't overstress
- Have regular updates with my trainers
- Do some more learning on concepts covered (especially testing Mocktio, Repos,Services etc)
- Better management on time and tasks

Questions?

Thank you for listening! :)