Software Engineering Project Report
CS363

Course Instructor :-

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Group 20

Group Members :-

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EzyAply

Software Link :- ezzyaply.pythonanywhere.com

Github Link :- github.com/Jatin-Goyal-552/EzyAply

Our software Ezyaply helps students and placement cell to speed up the internship application process of students for companies that visit campus.

Our Project mainly has two actors

1. **Admin** :-
    - Can login
    - Can add/update/delete an internship
    - Can view responses of students for an internship
    - Can download responses of students in excel sheet
    - Can add/update/delete an announcement
2. **Student** :-
    - Can register/login
    - Can apply for internships
    - Can add/update his/her profile
    - Can see Announcements
    - Can see all internship applied by him

Software Process

We used **Agile** process to build our software as :-

1. We interleaved the project specification, design and implementation process.
2. We developed our software as a series of increments.
3. We focused on code refactoring.
4. We did the pair programming.

Functional Requirements

- ➢ Students should be able to apply for internships.
- ➢ A mail should go to a student after he applies for an internship.
- ➢ Students should be able to see all previous internships applied by them.
- ➢ Students should be able to update their profiles.
- ➢ Admin should be able to add/update/delete a new internship.
- ➢ A mail should go to all students whenever the admin adds an internship.
- ➢ Admin should be able to download responses of students in an excel file.
- ➢ Admin should be able to add/update/delete an announcement.

- A mail should go to all students whenever the admin adds an announcement.

Non-Functional Requirements

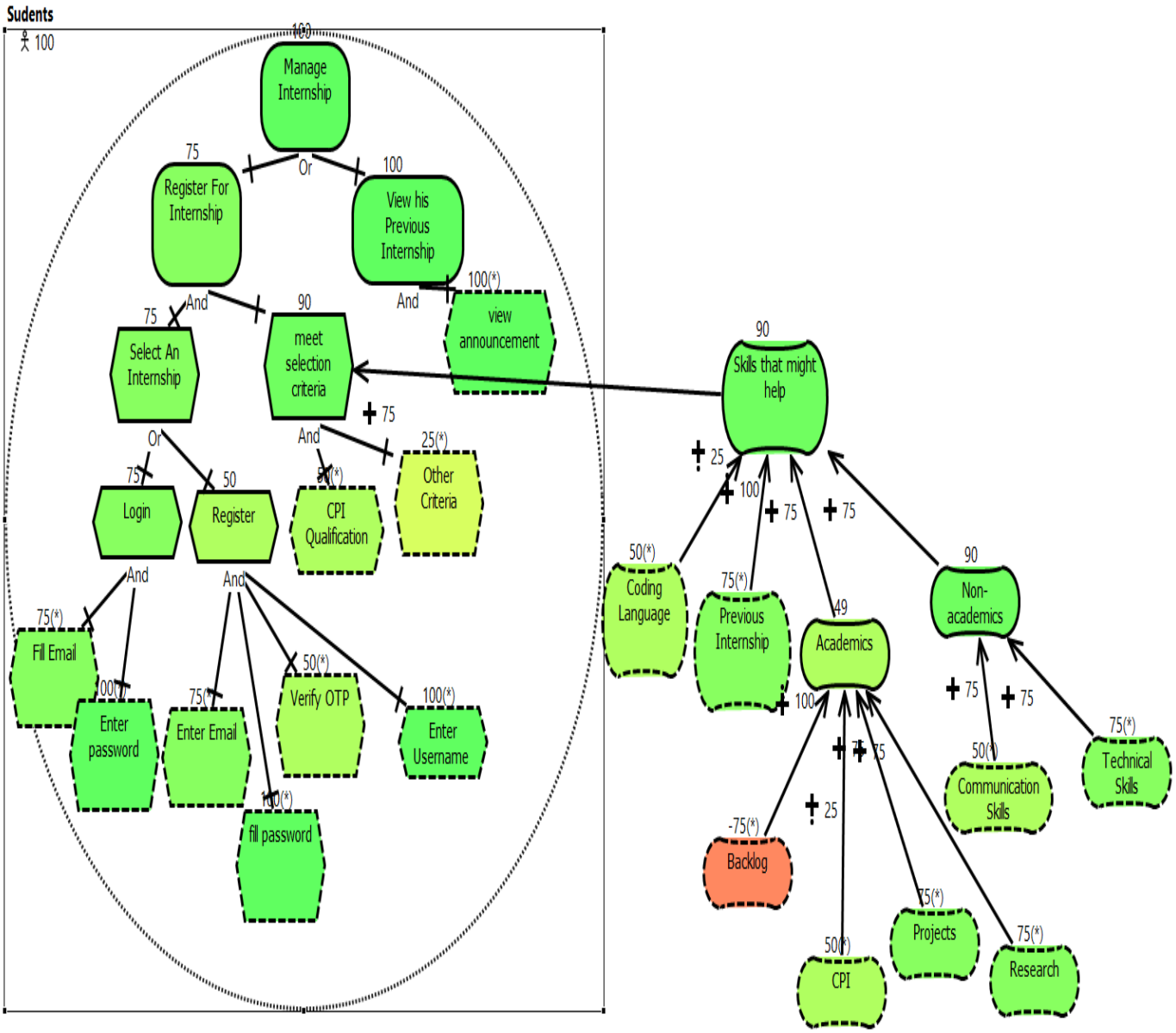
- Software should be able to store the records of approx 1000 students.
- Downtime of software should not exceed 30 minutes per day.
- Students should be able to use software after 15 minutes of training.

jUCMNav Tool

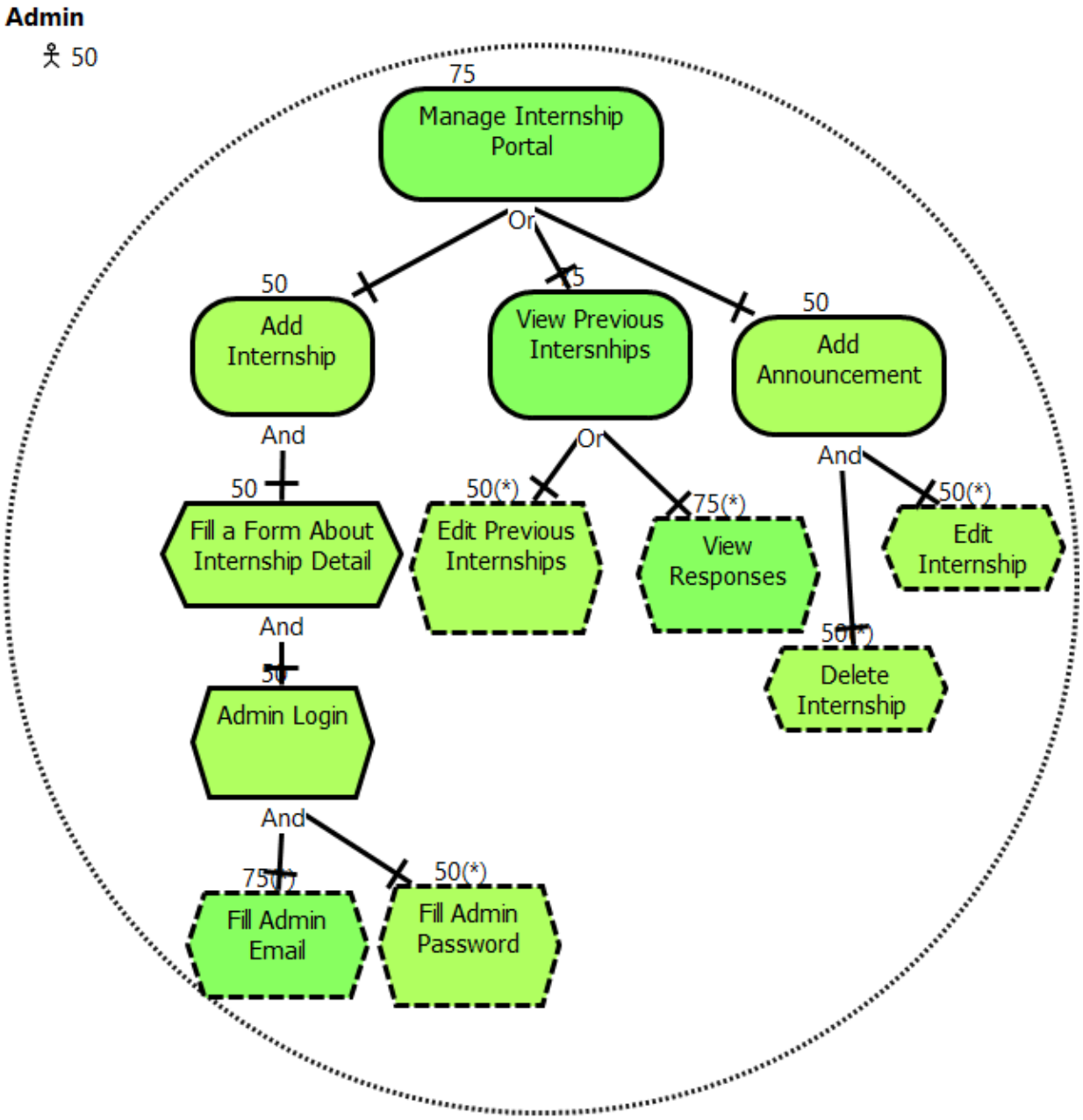
jUCMNav is a free, Eclipse-based graphical editor and an analysis and transformation tool for the User Requirements Notation (URN). We used the jUCMNav tool for the elicitation, analysis, specification, and validation of requirements. Using this tool we identified various goals, tasks, soft goals and relationships between them for our project.

GRL Graph Analysis Of Project

1. For Students :-



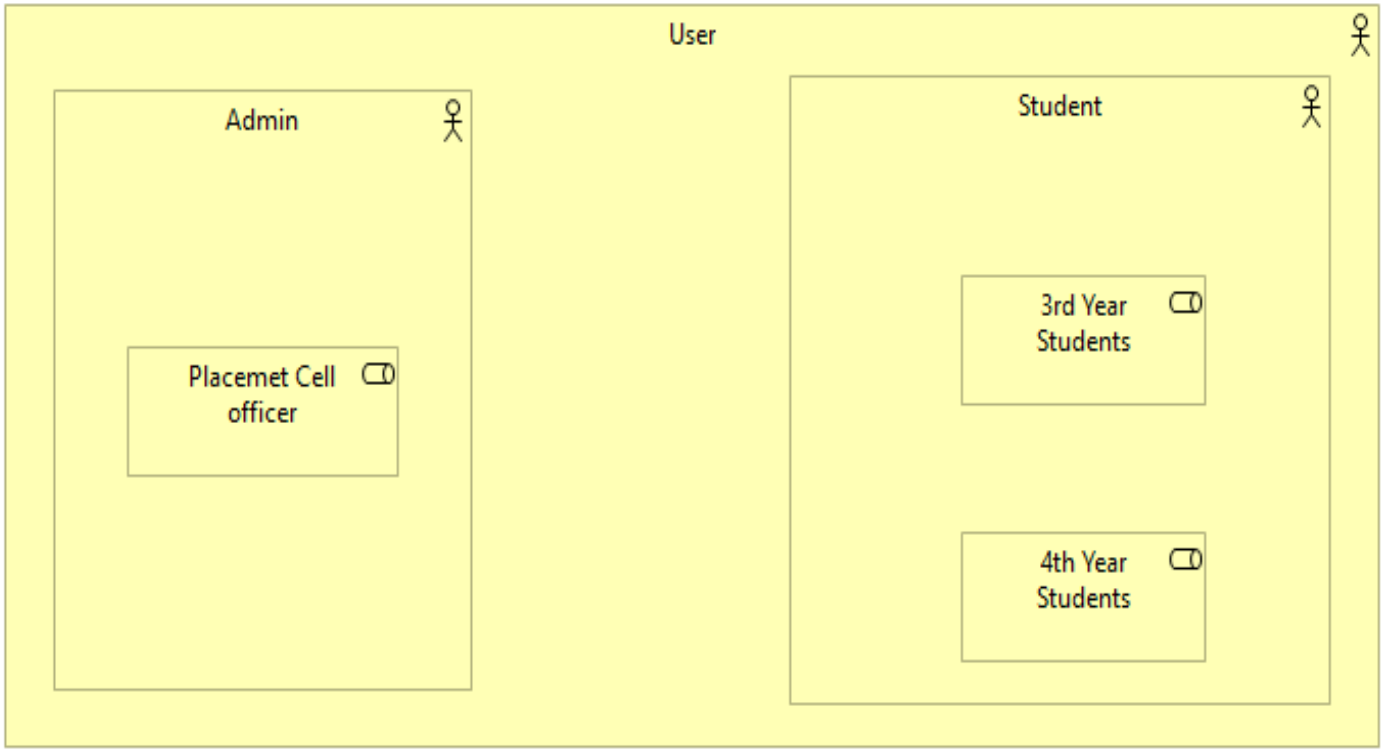
2.For Admin :-


Admin
50
75
Manage Internship Portal
Or
50
Add Internship
5
View Previous Intersnhips
50
Add Announcement
And
Or
And
50
Fill a Form About Internship Detail
50(*)
Edit Previous Internships
75(*)
View Responses
50(*)
Edit Internship
And
50(*)
Delete Internship
50
Admin Login
And
75(*)
Fill Admin Email
50(*)
Fill Admin Password

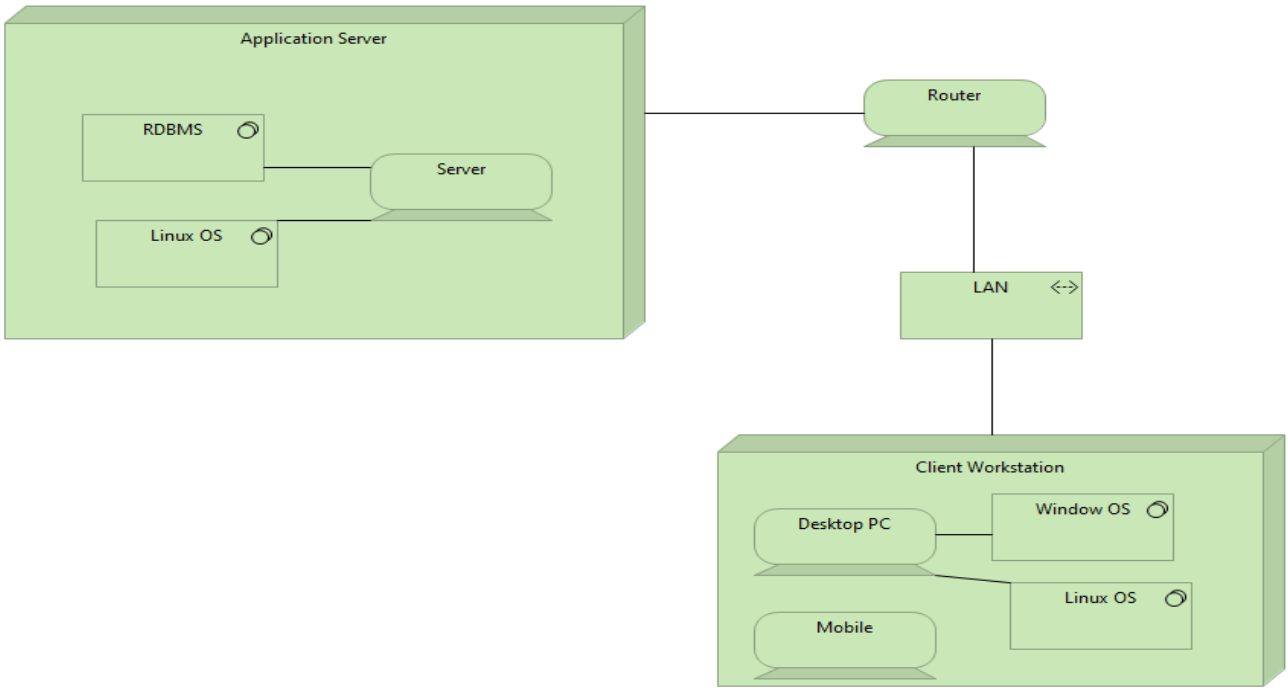
Archi Tool

Then we prepared archimate diagrams using the archi tool. We made diagrams for the three layers - Business, Application and Technology that describe the architecture of our software . We divided this for two weeks. In the first week we made OrganisationalViewPoint, InfrastructureViewPoint, BusinessProcessViewPoint, ServiceRalizationViewPoint and ServiceRalizationViewPoint. Then next week we completed the other diagrams.

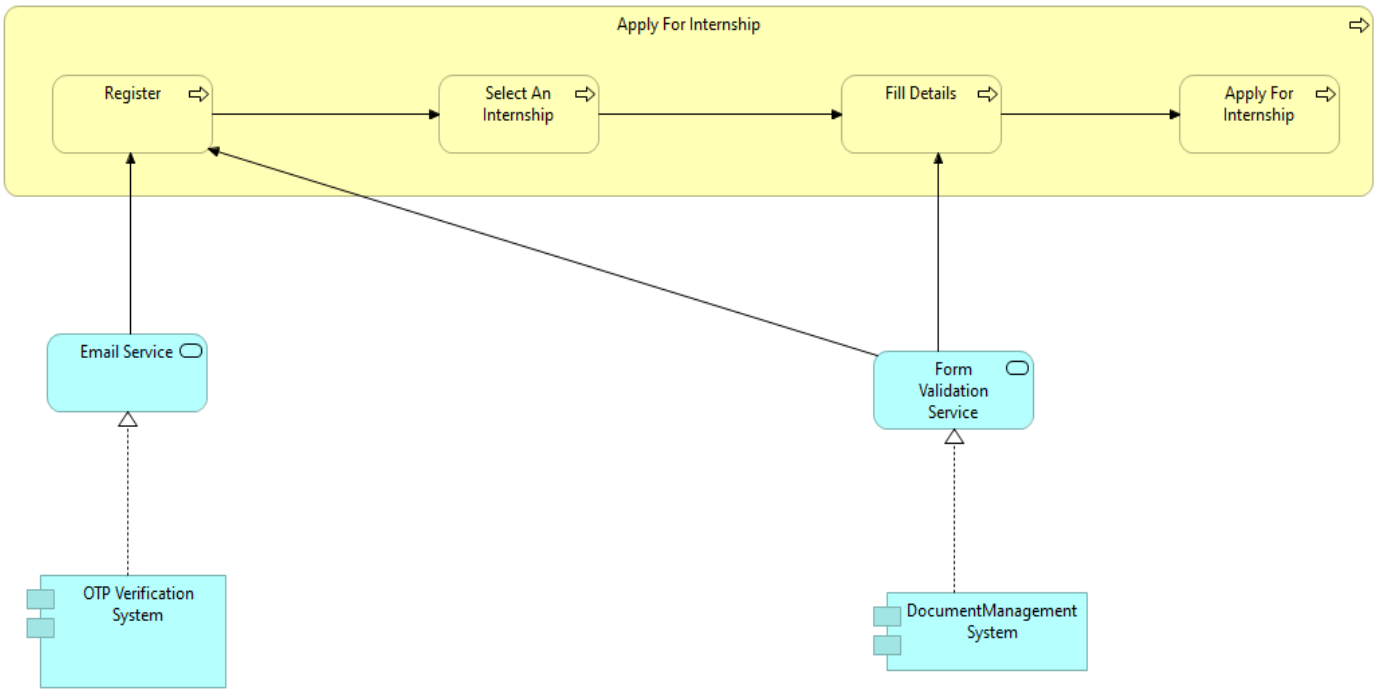
1. Organisational ViewPoint :-



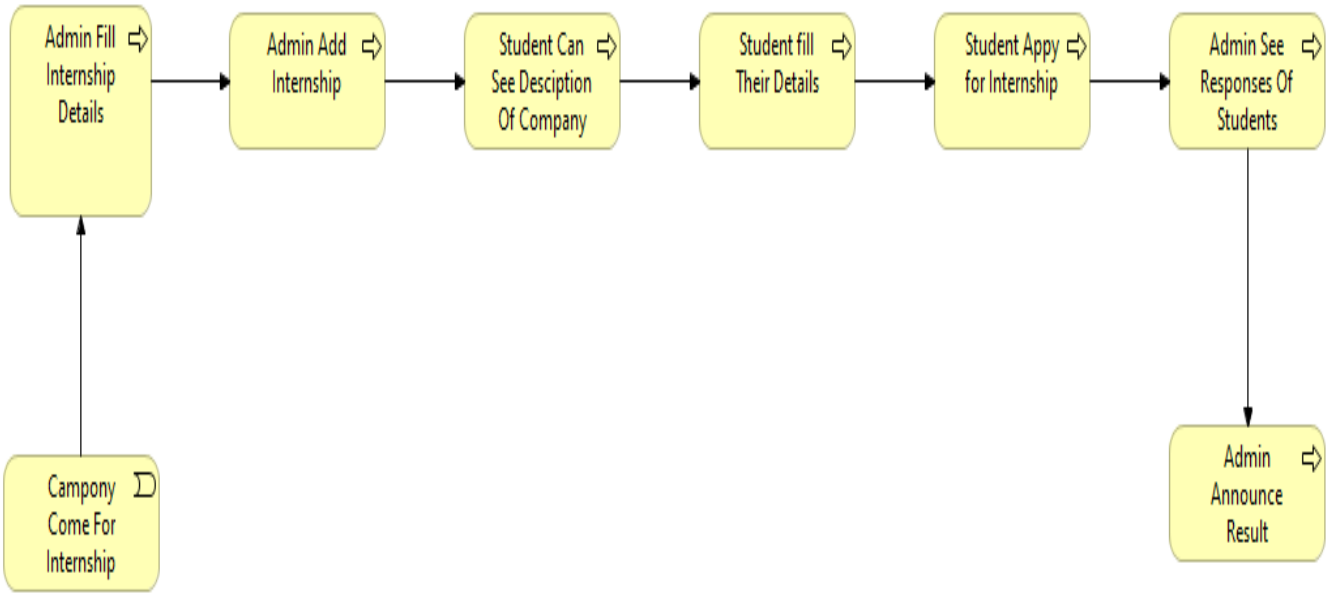
2. Infrastructure ViewPoint :-



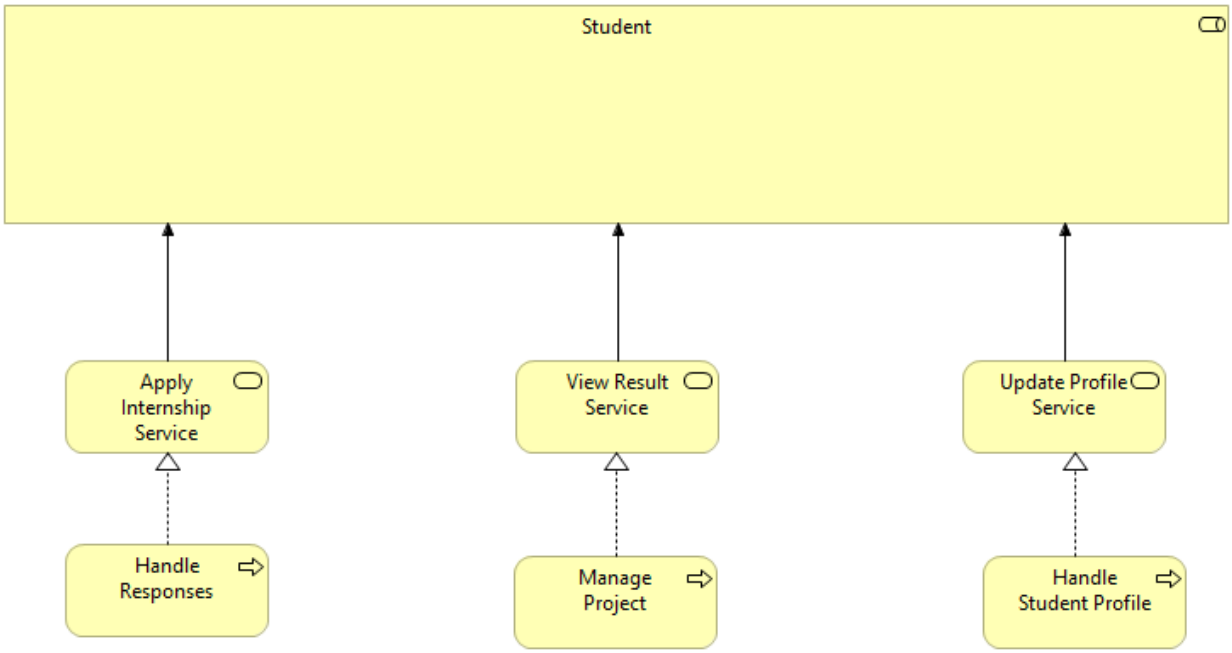
3. Application Usage ViewPoint :-



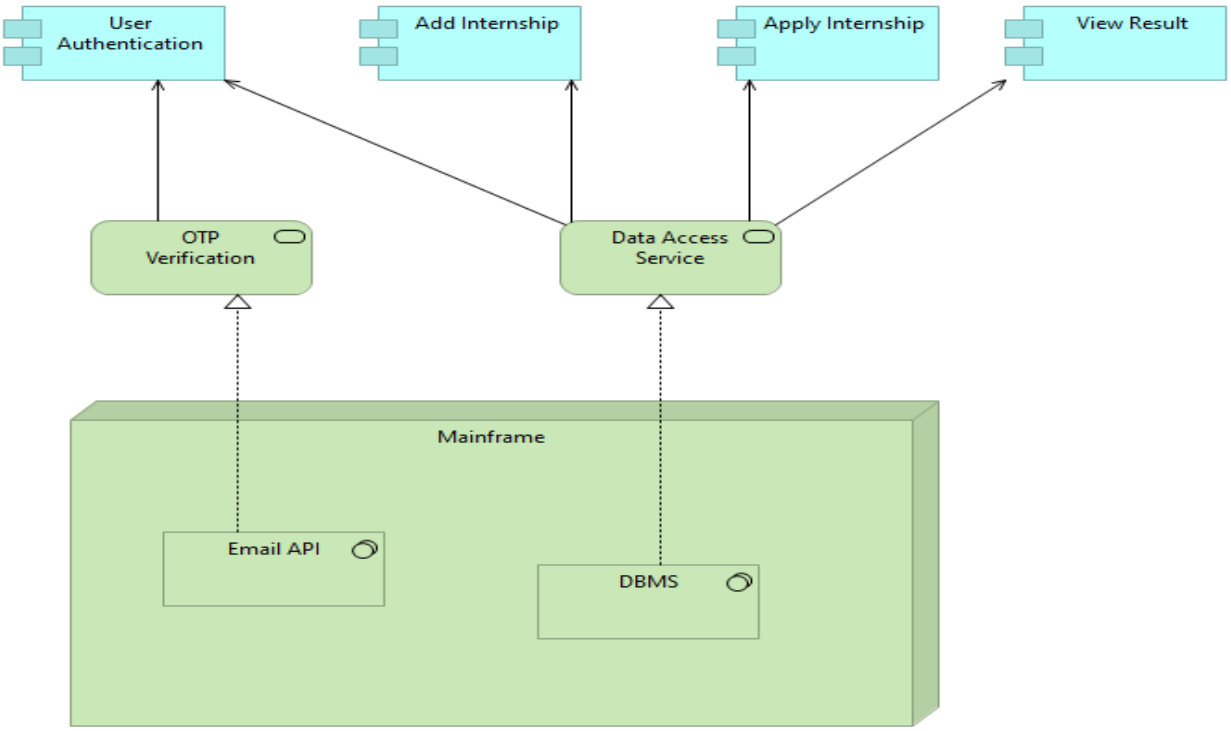
4. Business Process ViewPoint :-



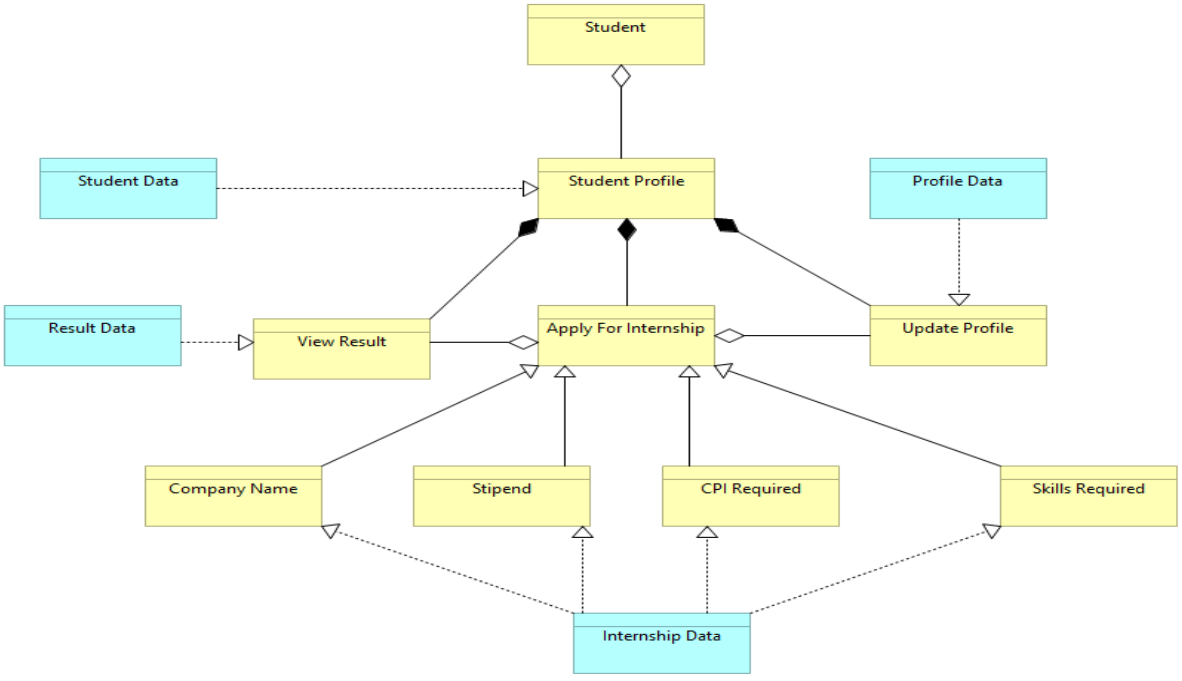
5. Service Ralization ViewPoint :-



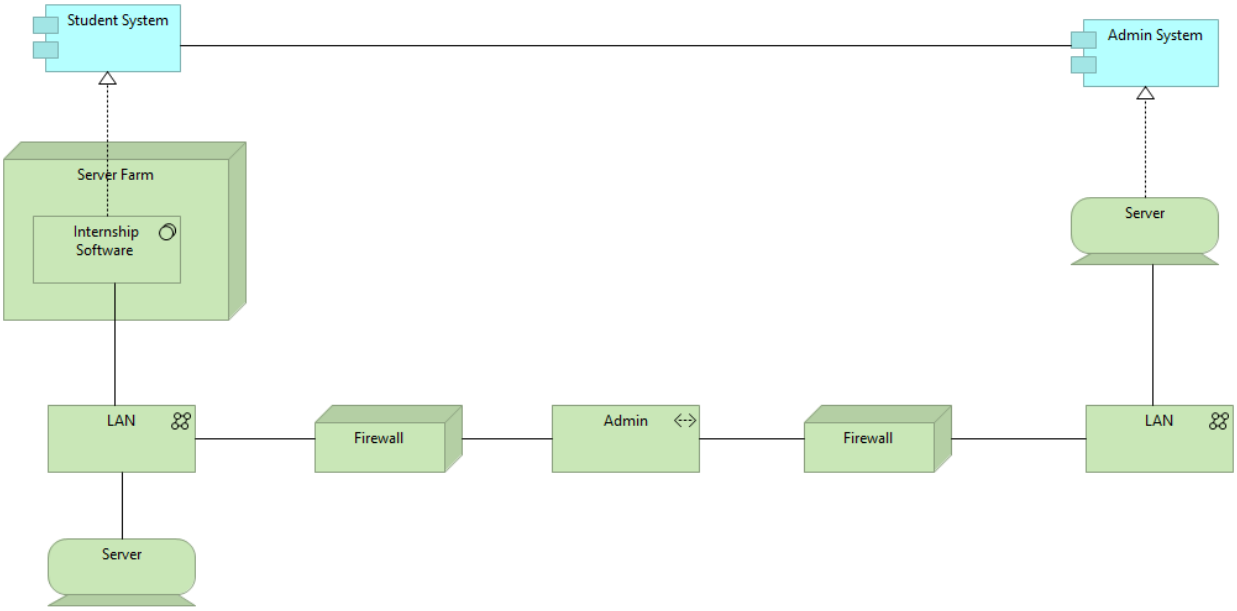
6. Infrastructure Usage ViewPoint :-



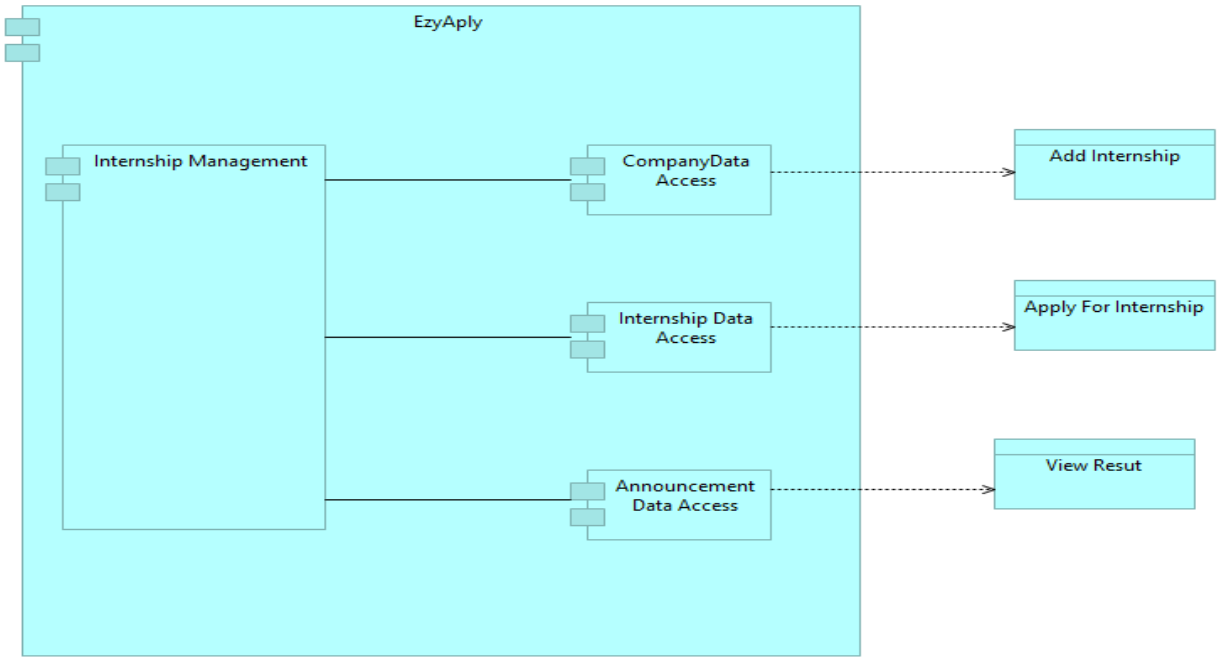
7. Information Structure ViewPoint :-



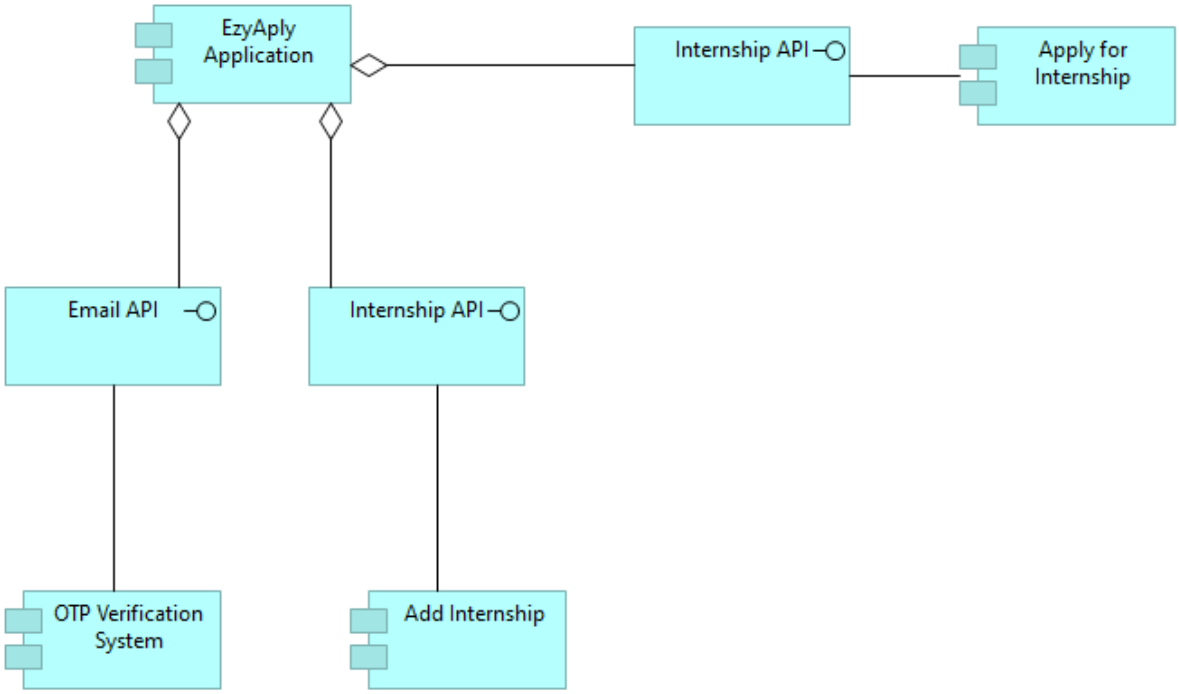
8. Implementation & Deployement ViewPoint :-



9. Application Structure ViewPoint :-



10. Application Coorperation ViewPont :-



Selenium

After completing all diagrams we used selenium for automated testing. This is an automated testing tool which is used to check whether all functionalities are working or not in a web project. We used Selenium IDE and webdriver to do automated testing. We wrote codes for four test cases like to add an internship, add an announcement, download responses and to apply for an internship.

1. To Add Announcement :-

```
from selenium import webdriver

from selenium.webdriver.common.by import By



excutablePath = "C:\webdrivers\chromedriver.exe"



options = webdriver.ChromeOptions()

driver = webdriver.Chrome(

    executable_path=excutablePath, options=options)



driver.get("http://ezzyaply.pythonanywhere.com/login/?next=/")

driver.maximize_window()
```

```
nameInput = driver.find_element(By.ID, "your_name")

nameInput.send_keys("admin")



passInput = driver.find_element(By.ID, "your_pass")

passInput.send_keys("admin")



signInBtn = driver.find_element(By.ID, "signin")

signInBtn.click()



makeAnnouncementBtn = driver.find_element(By.LINK_TEXT, "Make
Announcement")

makeAnnouncementBtn.click()



dateInput = driver.find_element(By.ID, "id_announcement_date")

dateInput.click()

dateInput.send_keys("09/11/2021")



announcementTextField = driver.find_element(By.ID, "id_announcement_text")

announcementTextField.click()

announcementTextField.send_keys("Viva is scheduled today ")



submitBtn = driver.find_element(By.CSS_SELECTOR, ".contact100-form-btn")

submitBtn.click()

driver.close()
```

2. To Add Internship :-

```
from selenium import webdriver

from selenium.webdriver.common.by import By



options = webdriver.ChromeOptions()

driver =
webdriver.Chrome(executable_path="C:\webdrivers\chromedriver.exe",chrome_o
ptions=options)



driver.get("http://ezzyaply.pythonanywhere.com/login/?next=/")

driver.maximize_window()



element=driver.find_element(By.ID, "your_name")

element.send_keys("admin")



element=driver.find_element(By.ID, "your_pass")

element.send_keys("admin")



element=driver.find_element(By.ID, "signin")

element.click()



element=driver.find_element(By.LINK_TEXT, "Add Internship")

element.click()
```

```
element=driver.find_element(By.ID, "id_company_name")

element.send_keys("Siemens")



element=driver.find_element(By.ID, "id_intern_role")

element.send_keys("Deep Learning Developer")



element=driver.find_element(By.ID, "id_description")

element.send_keys("Siemens work in field of deep learning.")



element=driver.find_element(By.ID, "id_duration")

element.send_keys("6")



element=driver.find_element(By.ID, "id_cpi")

element.send_keys("7")



element=driver.find_element(By.ID, "id_semester")

element.send_keys("6")



element=driver.find_element(By.ID, "id_stipend")

element.send_keys("50000")



element=driver.find_element(By.ID, "id_date")

element.send_keys("09-11-2021 15:00")
```

```
element=driver.find_element(By.ID, "id_other_qualifications")

element.send_keys("Candidate should be good in coding and know how to
train a deep learning model.")



element=driver.find_element(By.CSS_SELECTOR, ".contact100-form-btn")

element.click()
```

3. To Apply For Internship :-

```
from selenium import webdriver

from selenium.webdriver.common.by import By



options = webdriver.ChromeOptions()

driver =
webdriver.Chrome(executable_path="C:\webdrivers\chromedriver.exe",chrome_o
ptions=options)

driver.get("http://ezzyaply.pythonanywhere.com/login/?next=/")

driver.maximize_window()



element=driver.find_element(By.ID, "your_name")

element.send_keys("jatin2")

element=driver.find_element(By.ID, "your_pass")

element.send_keys("1237891k")

element=driver.find_element(By.ID, "signin")

element.click()

element=driver.find_element(By.XPATH,
"/html/body/div[2]/div/div[2]/div[2]/div/div[2]/div/a/button")

element.click()

element=driver.find_element(By.XPATH,
"/html/body/div/div/form/div[11]/button")

element.click()
```

4. To Download Responses :-

```
from selenium import webdriver

from selenium.webdriver.common.by import By



options = webdriver.ChromeOptions()

driver =
webdriver.Chrome(executable_path="C:\webdrivers\chromedriver.exe",chrome_o
ptions=options)



driver.get("http://ezzyaply.pythonanywhere.com/login/?next=/")

driver.maximize_window()



element=driver.find_element(By.ID, "your_name")

element.send_keys("admin")



element=driver.find_element(By.ID, "your_pass")

element.send_keys("admin")

element=driver.find_element(By.ID, "signin")

element.click()

element=driver.find_element(By.XPATH,
"/html/body/div[2]/div/div[2]/div[2]/div[2]/a[1]/img")

element.click()

element=driver.find_element(By.XPATH, "/html/body/div[1]/a[1]/button")

element.click()
```

Conclusion

During this lab mini project we learned about how we should plan our software development process using various tools. During this lab we learned to use various tools like jUCMNav tool for requirement specification, Archi tools for defining architecture of software and Selenium for automated testing of our software. These tools give us insight about how the software development process looks like in big corporations. In the first week we started with the jUCMNav tool in that we defined goal, task and softgoal for our project .Then we used Archi tool to describe the architecture of our software using three layers i.e. Business, Application and Technology layer. At last, we used Selenium which helped us in doing automated testing for our project.