

Application Engineering & Development – Summer 2021

Assignment3 Report

(Github Repo)

Here is the presentation of INFO5100 Homework assignment3 from our team. The teammates are Minghui Qiu, Jialai Wu, and Qian Yu. First, we'd like to make a brief introduction, and then show sequence diagrams, and analysis reports, and then make the app presentation to show more details.

In this application, we combine performance metrics in measuring education quality, course feedback, and career development. As a result, we realize multiple functions like university and companies management, course registration, and ranking. What's more, we define the report to show the relationship between courses, GPA, and career path.

We set several roles as the university, college, department, faculty, students, and employers and set different roles according to their unique responsibilities.

In the whole class diagram, we surround course registration to develop university hierarchy management, including CRUD of multiple organizations, persons, courses. Moreover, employers have the authority to promote their employees from the university to analyze the interaction between education and career path.

We also build diagrams based on different role types. These diagrams clearly describe their responsibilities and benefits for UI design.

When it comes to analysis reports, we make multiple dimensions of analysis and comparison. For example, we make course analysis reflecting feedback and student salary to know which course is the most popular? Which course is the most useful for students' career paths?

We have faculty analysis which can help figure out educational and practical feedback. Student analysis focuses on grade and career path so that we can see there is some relationship between GPA and career development.

Employers can analyze work performance with GPA, so it is more efficient in making hiring and promotion decisions. Thank you for your watching. Now we will switch to application practice.

Task	Assignment
Model design	Jialai Wu
UI navigation design	Jialai Wu
Model implementation	Qian Yu
Data faker module	Qian Yu
UI implementation	Minghui Qiu, Jialai Wu
Controller implementation	Minghui Qiu, Jialai Wu, Qian Yu
Test	Jialai Wu, Minghui Qiu, Qian Yu
Report	Jialai Wu

THE BIG DATA CENTRY University Model

INFO5100 Homework Assignment 3

Contributors:

Minghui Qiu, Jialai Wu, Qian Yu

Content

- Brief introduction
- Sequence diagram
- Analysis Report
- Application presentation

Brief introduction

Education Evaluation



performance
metrics



multiple
capabilities



combination:
education + career

Brief introduction

Student:

management of individual
courseload, course ranking,
view transcript,etc.



University:

management of college,
department, faculty,
course, student with career
development, etc.

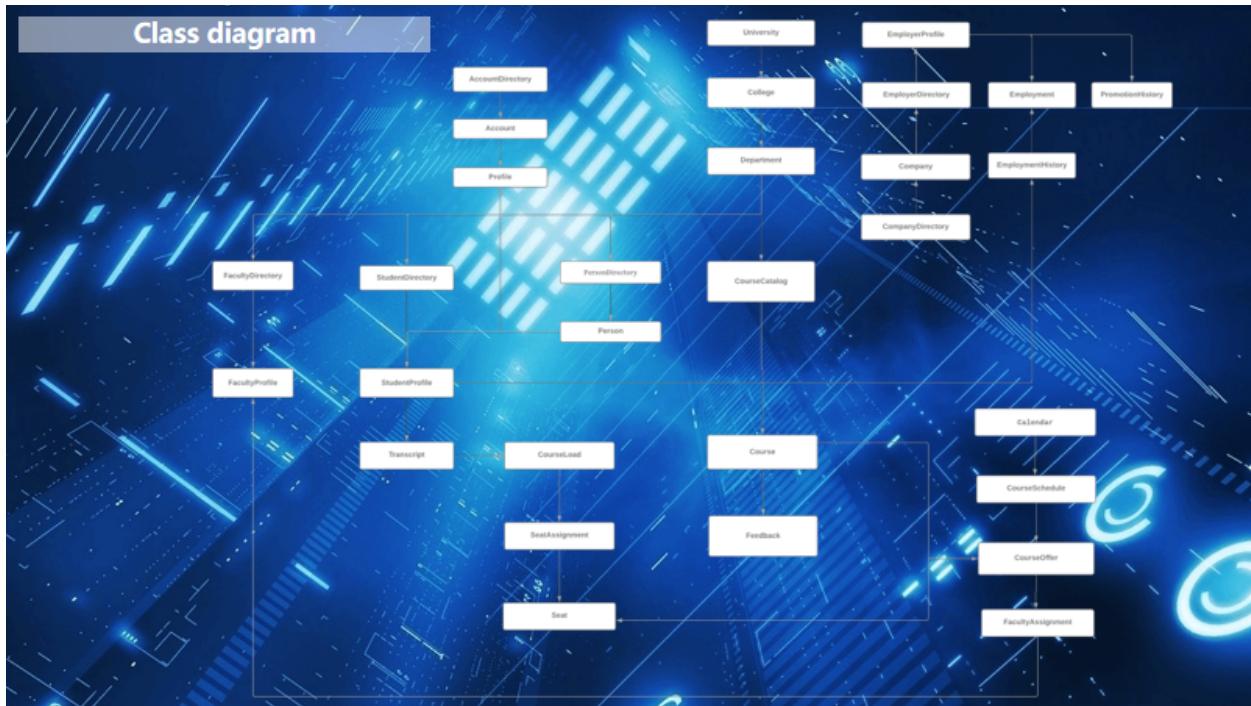


Employer:

management of
employee, view transcript
and career path, etc.

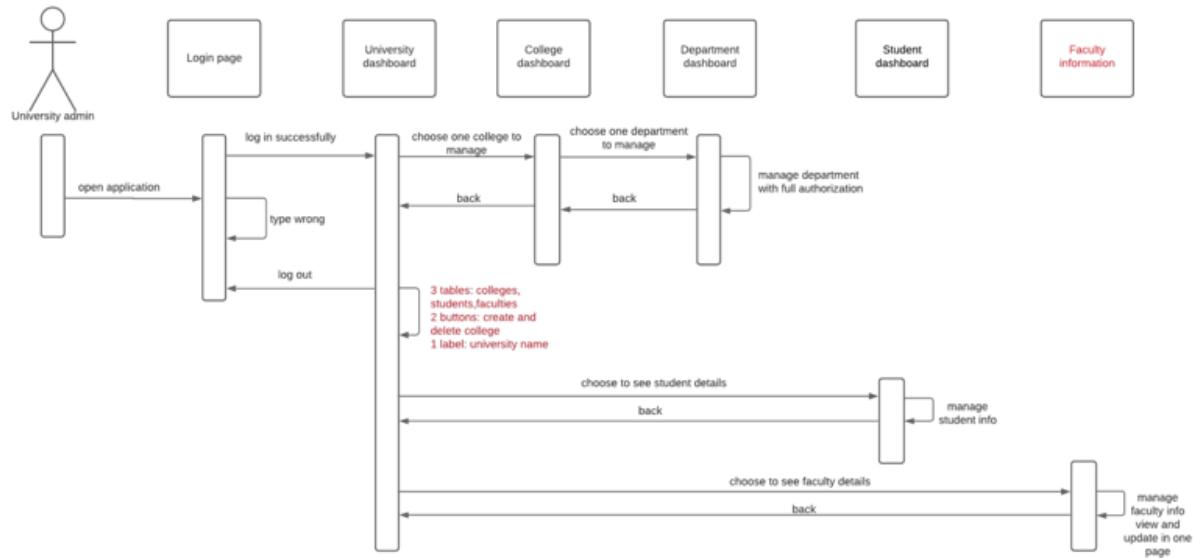


Data Analysis



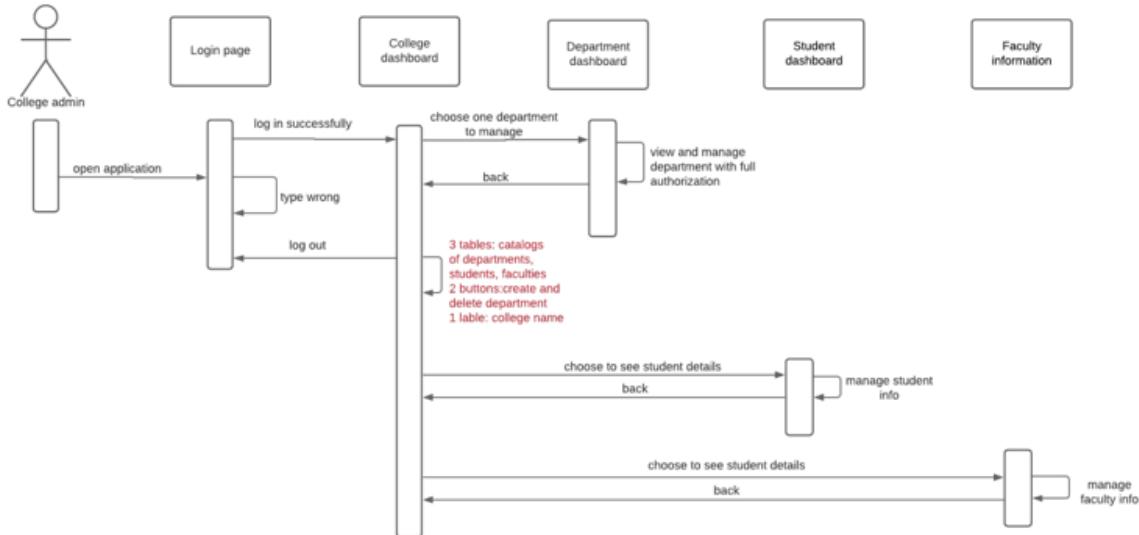
User diagrams

University Admin Account Diagrams



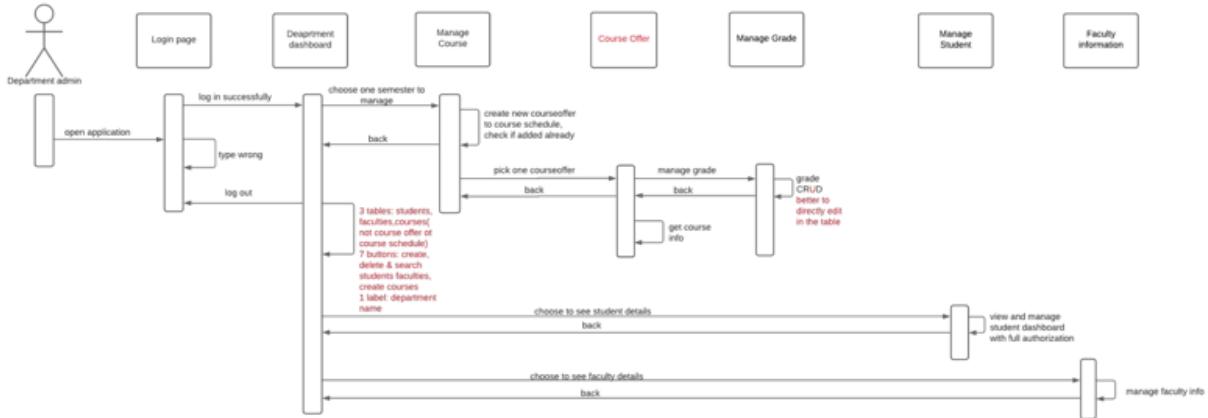
User diagrams

College Admin Account Diagrams



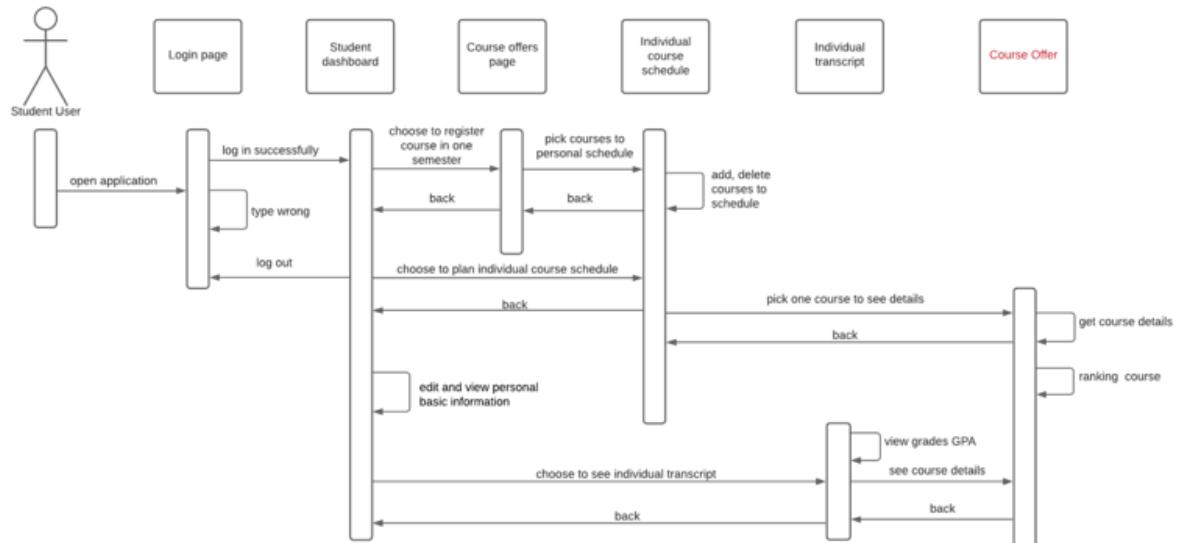
User diagrams

Department Admin Account Diagrams



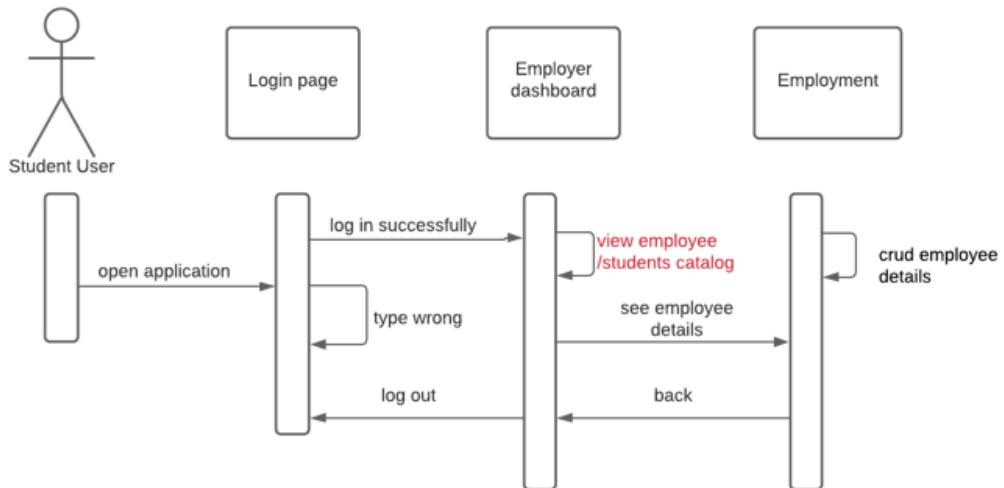
User diagrams

Student Account Diagrams



User diagrams

Employer Account Diagrams



Analysis Report

Course Analysis Faculty Analysis Student Analysis

Rank	Course	FeedBack▼	Student Salary	Student Grade
1	algorithm design	4.69	\$212k	3.37
2	computer network	4.60	\$226k	3.60
3	object oriented design	4.49	\$235k	3.55
4	micro computer	4.47	\$213k	3.59
5	big data	4.46	\$207k	3.43
6	java language	4.39	\$208k	3.33
7	operating system	4.30	\$204k	3.35
8	python language	4.30	\$220k	3.30
9	machine learning	4.19	\$199k	3.47
10	c language	4.13	\$225k	3.36
11	matlab language	4.06	\$216k	3.38

Summary:

Department courses performance report:
 1. The average feedback: 3.97
 1.1 the highest feedback: 4.69
 1.2 the lowest feedback: 2.78
 2. The average student salary: \$202k
 2.1 the highest student salary: \$235k
 2.2 the lowest student salary: \$163k
 3. The average student grade: 3.36
 3.1 the highest student grade: 3.60
 3.2 the lowest student grade: 3.20

Course analysis:

1.Which course is the most popular?

2.Which course is the most useful for students' career path?

3.Which course is easy to gain a high score?

Analysis Report

Course Analysis Faculty Analysis Student Analysis

Rank	Name	FeedBack▼	Student Salary	Student Grade
1	Robel	4.61	\$214k	3.44
2	Swaniawski	4.36	\$213k	3.57
3	Lockman	4.19	\$216k	3.36
4	Mosciski	3.85	\$196k	3.28
5	Hoppe	3.74	\$186k	3.28
6	D'Amore	3.48	\$194k	3.33

Summary:

Department faculties performance report:
 1. The average feedback: 4.04
 1.1 the highest feedback: 4.61
 1.2 the lowest feedback: 3.48
 2. The average student salary: \$203k
 2.1 the highest student salary: \$216k
 2.2 the lowest student salary: \$186k
 3. The average student grade: 3.38
 3.1 the highest student grade: 3.57
 3.2 the lowest student grade: 3.28

Faculty analysis:

1.Who is the most popular faculty?

2.Whose course is spoken highly by students?

3.Whose course is beneficial when seeking jobs?

Analysis Report

[Course Analysis](#) [Faculty Analysis](#) [Student Analysis](#)

Rank	Name	GPA▼	Job Performance	Salary	Promotions
1	Schimmel	3.96	6.86	\$398k	2
2	Corkery	3.90	3.03	\$302k	0
3	Baumbach	3.90	3.29	\$328k	0
4	Wiegand	3.88	2.48	\$247k	0
5	Purdy	3.84	2.48	\$248k	0
6	Keeling	3.84	4.97	\$373k	1
7	Turner	3.83	2.47	\$247k	0
8	Purdy	3.83	2.02	\$201k	0
9	Kirlin	3.83	2.53	\$252k	0
10	Kutch	3.82	3.02	\$301k	0
11	Gleichner	3.81	8.96	\$478k	3

Summary:

Department graduates career track report:

1. The average GPA: 3.30
- 1.1 the highest GPA: 3.96
- 1.1 the lowest GPA: 2.34
2. The average promotion times: 0.17
- 2.1 the highest promotion time: 3
- 2.2 the lowest promotion time: 0
3. The average salary: \$204k
- 3.1 the highest salary: \$478k
- 3.2 the lowest salary: \$54k

Analysis Report

Welcome Google Manager [Logout](#)

Rank	Name	Title	Performance▼	GPA	Salary	Promotions
1	Gleichner	Director	8.96	3.81	\$713k	3
2	Miller	Director	7.33	3.83	\$643k	2
3	Treutel	Senior Manager	7.32	3.67	\$588k	2
4	Schimmel	Senior Manager	6.86	3.96	\$573k	2
5	Bogan	Senior Manager	6.73	3.78	\$561k	2
6	Metz	Director	6.52	3.74	\$531k	2
7	Donnelly	Senior Manager	6.38	3.73	\$496k	2
8	Berge	Senior Manager	6.31	3.67	\$493k	2
9	Stanton	Director	6.29	3.47	\$496k	2
10	Mante	Manager	5.98	3.88	\$441k	2
11	Fisher	Director	5.92	3.67	\$459k	2
12	Roberts	Manager	5.89	3.82	\$423k	2
13	Fay	Senior Manager	5.77	3.48	\$435k	2
14	Simonis	Director	5.71	3.71	\$435k	2
15	Schmeier	Senior Manager	5.61	3.62	\$402k	2
16	Okuneva	Senior Manager	5.57	3.70	\$410k	2
17	Green	Manager	5.52	3.97	\$498k	1
18	Monahan	Senior Staff	5.13	3.92	\$440k	1
19	Lynch	Manager	4.98	3.66	\$326k	2
20	Cassin	Manager	4.98	3.89	\$436k	1

Employee analysis:

1. Is GPA and job title related?
2. Is GPA and work performance related?
3. Is GPA and promotion and salary related?

etc...