



System Design Document

Shortcut Website

Designed By **Team ShortCut**

Table of contents

CRC cards	3
Frontend	3
Backend	12
System Architecture Diagram	15
Diagram	15
Reference	15

Frontend CRC:

Button	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none">• Allow user to submit• Link to next page	Collaborators:

Login Page	
Parent class: none Subclass: Register Page	
Responsibilities: <ul style="list-style-type: none">• User input correct login information should successfully login• User input wrong login information should fail to login• No account user can use the sign-up button to navigate the register page.	Collaborators: <ul style="list-style-type: none">• Button• Link• Header• TextInput• Image

Register Page	
Parent class: Login Page Subclass: none	
Responsibilities: <ul style="list-style-type: none">• User is able to register with their email address, and create a username and password	Collaborators: <ul style="list-style-type: none">• Button• Header• TextInput• Image

Home Page	
Parent class: none	

Subclass: none	
Responsibilities: <ul style="list-style-type: none"> • User should see a welcome message • User should be able to see different buttons that lead to other pages 	Collaborators: <ul style="list-style-type: none"> • Link • Header

Personal Profile Page	
Parent class: none Subclass: none	
Responsibilities: <ul style="list-style-type: none"> • Allows users to edit their basic information • Allows users to delete their current accounts and sign out 	Collaborators: <ul style="list-style-type: none"> • Button • Link • Header • TextInput • Image

Header	
Parent class: none Subclass: none	
Responsibilities: <ul style="list-style-type: none"> • Indicates primary information of a page of a section of a page 	Collaborators:

TextInput	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allow user to type in texts 	Collaborators:

Link	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> Lead user to another page 	Collaborators:

Image	
Parent class: none Subclass: none	
Responsibilities: <ul style="list-style-type: none"> Displays an image 	Collaborators:

Text	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> Displays text 	Collaborators:

General Course Search Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allows users to search for courses with keywords. • Results will be displayed based on relevance. • User can click and use recommended key words for search 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Textinput • Button

Advanced Course Search Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allows users to search for courses with various specifications • Allows a reset of the specifications 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Textinput • Button • Yes/No • Spinner

Course Info Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Displays course information in text • Displays course rating • Allows users to navigate to Rate Survey Page to rate and comment about the course. • Allows users to navigate to the Rating/Comments Page for relevant information. 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Button • Link

Rating/Comments Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Displays course rating • Displays comments(and comments of comments) with numbers of likes and dislikes. • Allows sorting and filtering of the comments. • Allows users to reply to the existing comments. 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Textinput • Button • Spinner

Switch	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Toggles the state of the relevant parameter. 	Collaborators:

Scroll bar	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allows the change of a continuous parameter. 	Collaborators:

Yes/No	
Parent class: Subclass:	

Responsibilities: <ul style="list-style-type: none"> • Receive a boolean input. 	Collaborators:
--	----------------

Spinner	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Once clicked, expands to a list of options to choose from. 	Collaborators:

Rate Survey Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allow users to fill out and submit a survey about course rating • User will see their comments on the comments page after submitting the form 	Collaborators: <ul style="list-style-type: none"> • TextInput • Spinner • Button • Header • Text • Rating/Comments Page

Program Info Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Displays program information in text 	Collaborators: <ul style="list-style-type: none"> • Header • Text

General Program Search Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allows users to search for a program with keywords. • Results will be displayed based on relevance. • User can click and use recommended keywords for search 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Textinput • Button

Advanced Course Search Page	
Parent class: Subclass:	

Responsibilities: <ul style="list-style-type: none"> Allows users to search for programs with various specifications Allows a reset of the specifications Results will not conflict the specifications 	Collaborators: <ul style="list-style-type: none"> Header Text Textinput Button Yes/No
---	--

Grad Requirement Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> Displays graduation information in text 	Collaborators: <ul style="list-style-type: none"> Header Text

Navbar	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> Allow user to switch between light/dark mode Allow user to back to the previous page Allow user to click into profile page 	Collaborators: <ul style="list-style-type: none"> Button Switch Text

Selection Support Page	
Parent class: Subclass:	

Responsibilities: <ul style="list-style-type: none"> • Allow user to navigate to the survey • Direct use who has confusion on course planning 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Link
---	---

Academic History Survey Page	
Parent class: Subclass:	
Responsibilities: <ul style="list-style-type: none"> • Allow user to cancel the survey at any time • For user input different contents, survey is interactive 	Collaborators: <ul style="list-style-type: none"> • Header • Text • Link • Button • Spinner

Backend CRC:

Class Name:	
Parent Class (if any): List the parent class if applicable Subclasses (if any): List all the subclasses separated by a comma	
Responsibilities: <ul style="list-style-type: none">• List responsibilities	Collaborators: <ul style="list-style-type: none">• List all your collaborators

Class Name: User/Student	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none">• Know name• Know password• Know email address• Know date of birth• Know gender• Know program of study (if any)• Know year of study• Know fields of interest• Know user's likes/dislikes• Know user's ratings• Know user's comments• Can register• Can login• Can edit user profile• Can delete user account• Can edit visibility of profile• Can search for course• Can search for program• Can edit user's ratings• Can edit user's comments• Can delete user's ratings• Can delete user's comments	Collaborators: <ul style="list-style-type: none">• Course• Program• Rating• Comment

Class Name: Rating	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> • Know course • Know user that writes the rating • Know date posted • Know date last modified • Know professor • Know difficulty rating score • Know workload rating score • Know 'interesting' rating score • Know rating's comments • Can compute overall rating score 	Collaborators: <ul style="list-style-type: none"> • User • Comment

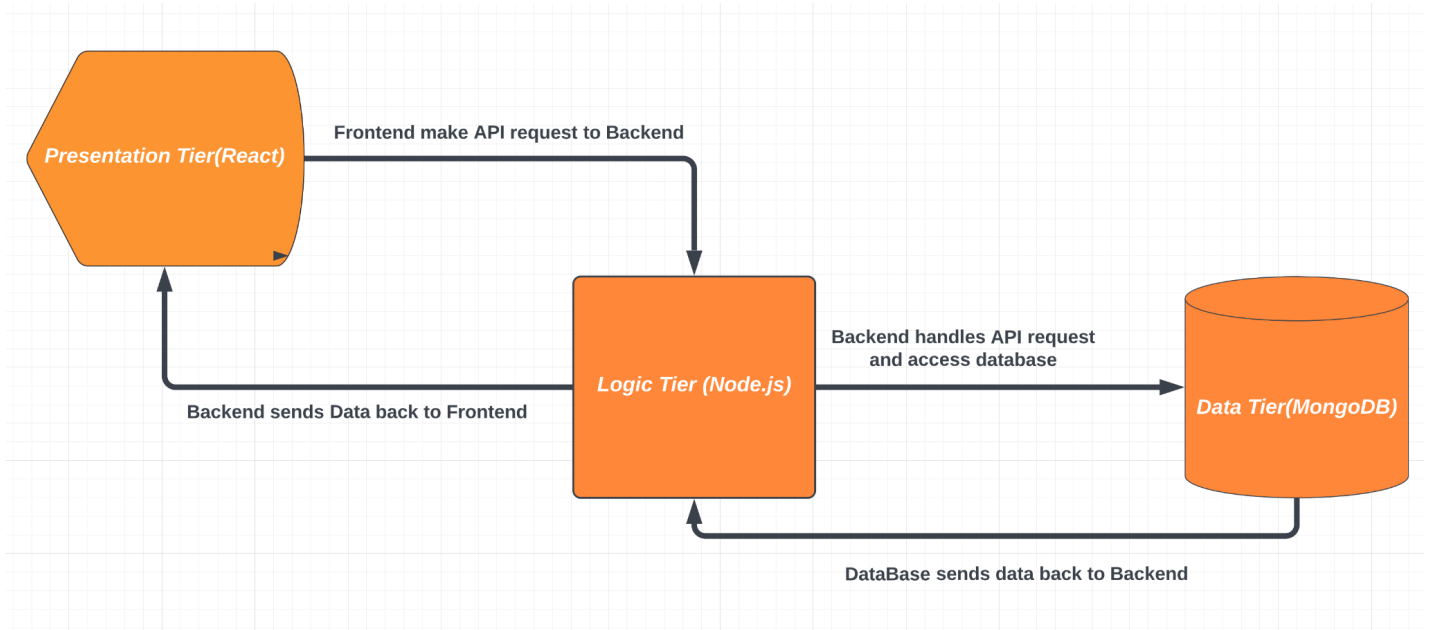
Class Name: Comment	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> • Know user • Know date posted • Know date last modified • Know content • Know replies • Know likes • Know dislikes 	Collaborators: <ul style="list-style-type: none"> • User

Class Name: Course
Parent Class (if any):

Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> • Know course code • Know course name • Know course description • Know course tags • Know all ratings of the course • Know all comments of the course • Know prerequisites • Know professors taught the course • Can calculate course average score 	Collaborators: <ul style="list-style-type: none"> • Program

Class Name: Program	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> • Know program code • Know program name • Know program description • Know tags • Know required courses • Knows limitation to enrollment • Know POST requirements if limited enrollment • Can calculate program average score with all the required courses 	Collaborators: <ul style="list-style-type: none"> • Course

System Architecture Diagram.



Reference:

<https://docs.aws.amazon.com/whitepapers/latest/serverless-multi-tier-architecture-es-api-gateway-lambda/three-tier-architecture-overview.html>