



# African Impact Challenge

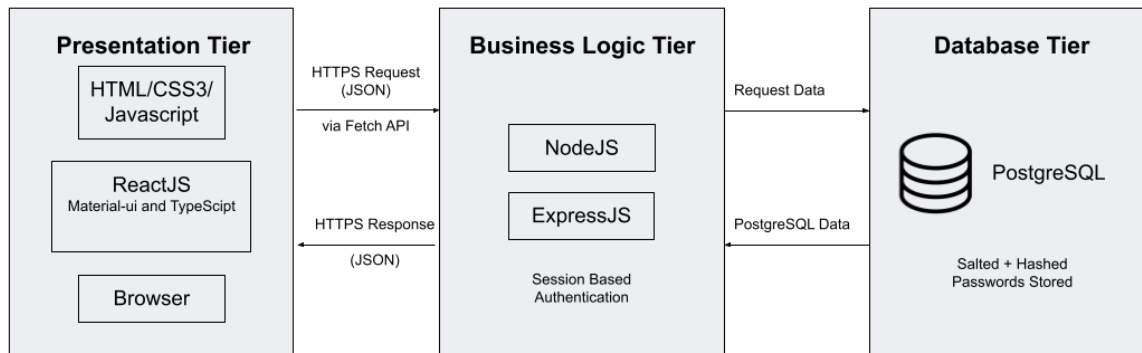
## System Design

Tapas Rastogi  
Patrick Kemzang  
Haolong Zhang  
Clement Tran  
Aaron Tan  
Brandon Jaipersaud  
Ho Ki Yuen

# Table of Contents

System Architecture Diagram (3-tier architecture)	3
CRC Cards	4
Frontend	4
Backend	9

## System Architecture Diagram (3-tier architecture)



Note: See diagram above for technologies that will be utilized and how they interact.

The Presentation Tier is the front end layer – consists of the user interface

The Business Logic Tier contains functional business logic – capabilities of the web application

The Database Tier contains the database

Inspired by:

<https://levelup.gitconnected.com/a-complete-guide-build-a-scalable-3-tier-architecture-with-mern-stack-es6-ca129d7df805>

# CRC Cards

## Frontend

Class Name: Home	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"><li>• Serves as a general landing page that allows users to signup and login</li></ul>	Collaborators: <ul style="list-style-type: none"><li>• SignUp</li><li>• LogIn</li></ul>

Class Name: LogIn	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"><li>• Authenticates the user</li><li>• Redirects said user to their personalized dashboard upon successful authentication</li></ul>	Collaborators: <ul style="list-style-type: none"><li>• Home</li><li>• SignUp</li></ul>

Class Name: SignUp	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"><li>• Allows the user to create an account</li></ul>	Collaborators: <ul style="list-style-type: none"><li>• Home</li><li>• LogIn</li></ul>

Class Name: CalendarPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"><li>• Displays google calendar – upcoming workshops, office hours, deadlines, etc</li></ul>	Collaborators: <ul style="list-style-type: none"><li>• NavBar</li><li>• AppBar</li></ul>

Class Name: InvitationPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Allows users to send/accept invitations to join company</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: DashboardPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Welcomes the user and gives them recommended actions to take</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: GuestReadingPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Allows visitors of the AIC website to access course readings</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: GuestVideoPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Allows visitors of the AIC website to access course videos</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: VideoCard	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>To display video, video title, uploader, and upload date</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li></li> </ul>

Class Name: PeoplePage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Allows users to view people associated with AIC</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: UserItem	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>To list users associated with AIC</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li></li> </ul>

Class Name: VideoPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Enables users to post videos and other users to view the posted videos.</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: ReadingsPage	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Enables teachers to post readings and other users to view the posted readings.</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AppBar</li> </ul>

Class Name: AppBar	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Take user back to the dashboard</li> <li>Give user the option to logout</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>Dashboard</li> </ul>

Class Name: Profile	
Parent Class (if any): Subclasses (if any): <ul style="list-style-type: none"> <li>PartnerProfile</li> <li>EntrepreneurProfile</li> <li>InstructorProfile</li> <li>CompanyProfile</li> </ul>	
Responsibilities: <ul style="list-style-type: none"> <li>Displays information about a user</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> </ul>

Class Name: EntrepreneurProfile	
Parent Class (if any): <ul style="list-style-type: none"> <li>Profile</li> </ul> Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Displays information about an entrepreneur</li> <li>Entrepreneur has the option to create a company profile</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>CompanyProfile</li> </ul>

Class Name: InstructorProfile	
Parent Class (if any): <ul style="list-style-type: none"> <li>• Profile</li> </ul> Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Displays information about an instructor</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>• NavBar</li> </ul>

Class Name: PartnerProfile	
Parent Class (if any): <ul style="list-style-type: none"> <li>• Profile</li> </ul> Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Displays information about a partner</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>• NavBar</li> </ul>

Class Name: CompanyProfile	
Parent Class (if any): <ul style="list-style-type: none"> <li>• Profile</li> </ul> Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Displays information about a company</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>• NavBar</li> </ul>

Class Name: People	
Parent Class (if any):         Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Shows all users and entities registered for the website</li> <li>• Can visit user/company profile by clicking on an avatar representing the user/company</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>• NavBar</li> <li>• Profile</li> </ul>



Class Name: AssignmentPageRouter	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Routes between the teacher and entrepreneur views</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> </ul>

Class Name: AssignmentPageTeacherView	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Renders the teacher view of the assignment page</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AssignmentPageRouter</li> </ul>

Class Name: AssignmentPageEntrepreneurView	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Renders the entrepreneur view of the assignment page</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> <li>AssignmentPageRouter</li> </ul>

Class Name: Discussions	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Provides a user with the ability to create a post</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> </ul>

Class Name: Messaging	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Provides a user with the ability to message another user</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>NavBar</li> </ul>

## Backend

Class Name: Routes/ProfileRoutes	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Handles request related to user profiles – signup, sign in, sign out, update profile</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li></li> </ul>

Class Name: Routes/CoursesRoutes	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Handles requests related to uploading resources onto the server</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li></li> </ul>

Class Name: Middleware/Auth	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>Authenticates users accessing endpoints</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li></li> </ul>

Class Name: Routes/Upload.js	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Handles file upload to server</li> <li>• Ensure valid files are uploaded</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>•</li> </ul>

Class Name: NodeMailer/NodeMailer.js	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Handles sending emails</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>•</li> </ul>

Class Name: Helper/DateHelper.js	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> <li>• Get current date/time in YYYY-MM-DD HH:MM:SS format</li> <li>• Get current date/time plus 'x' minutes</li> </ul>	Collaborators: <ul style="list-style-type: none"> <li>•</li> </ul>