



African Impact Challenge

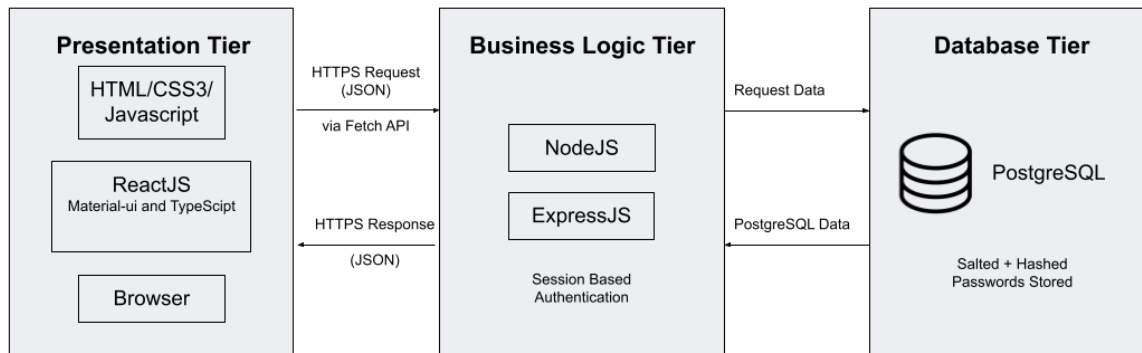
System Design

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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">• Serves as a general landing page that allows users to signup and login	Collaborators: <ul style="list-style-type: none">• SignUp• LogIn

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

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

Class Name: Dashboard	
Parent Class (if any): Subclasses (if any):	
Responsibilities: <ul style="list-style-type: none"> Provides the user with shortcuts to various sections of the application Welcomes the user and gives them recommended actions to take 	Collaborators: <ul style="list-style-type: none"> NavBar AppBar

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Backend

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

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

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

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