

# **System Design Document**

**JuicyBoys**

**Gordon Xiong**

**Ammar Tariq**

**Zhiqi Chen**

**Vignesh Nanthakumar**

**Keshavaa Shaiskandan**

# **Table of Contents**

Backend CRC Cards (Models)	Page 3
Backend CRC Cards (Routes)	Page 5
Frontend CRC Cards	Page 8
Software Architecture Diagram	Page 11

# Backend CRC Cards (Models)

<b>Class name:</b> user	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Schema for user object</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• None</li></ul>

<b>Class name:</b> student	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Schema for student object</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• None</li></ul>

<b>Class name:</b> teacher	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Schema for teacher object</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• None</li></ul>

<b>Class name:</b> entrepreneur	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Schema for entrepreneur object</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• None</li></ul>

<b>Class name:</b> course	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Schema for course object</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• None</li></ul>

<b>Class name:</b> company	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Schema for company object</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• None</li> </ul>

<b>Class name:</b> assignment	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Schema for assignment object</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• None</li> </ul>

<b>Class name:</b> comment	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Schema for comment object</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• None</li> </ul>

<b>Class name:</b> post	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Schema for post object</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• None</li> </ul>

<b>Class name:</b> submission	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Schema for submission object</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• None</li> </ul>

# Backend CRC Cards (Routes)

<b>Class name:</b> users	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Endpoint for registering user</li><li>• Endpoint for user login</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• user</li><li>• student</li><li>• teacher</li><li>• entrepreneur</li></ul>

<b>Class name:</b> students	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Get student profile</li><li>• Create student profile</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• student</li><li>• course</li><li>• auth</li></ul>

<b>Class name:</b> teachers	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Get teacher profile</li><li>• Create teacher profile</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• teacher</li><li>• course</li><li>• auth</li></ul>

<b>Class name:</b> entrepreneurs	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Get entrepreneur profile</li><li>• Create entrepreneur profile</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• entrepreneur</li><li>• company</li><li>• auth</li></ul>

<b>Class name:</b> courses	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Get all courses with pagination</li> <li>• Get a course by courseId</li> <li>• Create a course</li> <li>• Create an assignment</li> <li>• Submit an assignment</li> <li>• Enroll a student in a course</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• course</li> <li>• student</li> <li>• assignment</li> <li>• submission</li> <li>• auth</li> </ul>

<b>Class name:</b> posts	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Create a new post</li> <li>• Update a post's message</li> <li>• Get posts by course id for a course</li> <li>• Get posts by user id for a user</li> <li>• Delete a post</li> <li>• Create a new comment</li> <li>• Update a comment message</li> <li>• Get comments by post id for a post</li> <li>• Delete a comment</li> <li>• Add a like to a post</li> <li>• Removed a like from a post</li> <li>• Get likes by postID</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• post</li> <li>• comment</li> <li>• auth</li> </ul>

<b>Class name:</b> companies	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Get all companies with pagination</li> <li>• Get a company by companyId</li> <li>• Create a company</li> <li>• Assign a company with an entrepreneur</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• company</li> <li>• entrepreneur</li> <li>• auth</li> </ul>

<b>Class name:</b> auth	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Implement user authentication</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• None</li> </ul>

# Frontend CRC Cards

<b>Class name:</b> home	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Display home page with courses and tool bar</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• courses</li></ul>

<b>Class name:</b> login	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Display user login page</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• users</li></ul>

<b>Class name:</b> profile	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Display user profile page</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• students</li><li>• teachers</li><li>• entrepreneurs</li></ul>

<b>Class name:</b> signup	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>• Display user registration page</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>• users</li></ul>



<b>Class name:</b> courseHome	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Display course page for a given course</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• courses</li> </ul>

<b>Class name:</b> assignmentHome	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Display assignment page for a given course</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• courses</li> <li>• assignments</li> </ul>

<b>Class name:</b> createAssignment	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Display assignment creation page for a given course for teachers</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• courses</li> <li>• assignments</li> <li>• teachers</li> </ul>

<b>Class name:</b> companyHome	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Display company page for a given company</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• companies</li> </ul>

<b>Class name:</b> createCompany	
<b>Parent Class (if any):</b> <i>None</i> <b>Subclasses (if any):</b> <i>None</i>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>• Display company creation page for a given company for entrepreneurs</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>• Companies</li> <li>• entrepreneurs</li> </ul>

