

System Design

SportCred

By System32:

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CRC cards

Backend Classes

Class name: Main

| | | |
|-------------------|---|---|
| Parent Class:None | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Start Program• Initialize frontend | Collaborators: <ul style="list-style-type: none">• LoginPage• AccountManager |

Class name: Manager

| | | |
|--|--|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: | Collaborators: |
| <ul style="list-style-type: none"> • AccountManager • ACSManager • PicksManager • QuestionsManager • NotificationsManager | <ul style="list-style-type: none"> • getUserId • Login • Current user • boolean loggedIn | <ul style="list-style-type: none"> • AccountManager • ACSManager • PicksManager • QuestionsManager • NotificationsManager |

Class name: AccountManager

| | | |
|-----------------------|---|---|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: | Collaborators: |
| | <ul style="list-style-type: none"> • Account recovery • Register • Delete account • Change Password | <ul style="list-style-type: none"> • Manager • Main • ForgotPW • PasswordPage • RegisterPage |

Class name: ACSManager

| | | |
|-----------------------|---|---|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: | Collaborators: |
| | <ul style="list-style-type: none"> • Current Score • Get history • Breakdown | <ul style="list-style-type: none"> • ACS • PicksManager • TriviaManager • DebateManager |

Class name: PicksManager

| | | |
|-----------------------|---|--|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: | Collaborators: |
| | <ul style="list-style-type: none"> • ViewPastpicks • UpdatePicks • DeletePicks • CheckPicks | <ul style="list-style-type: none"> • QuestionsManager • ACSManager • NotificationsManager |

Class name: TriviaManager

| | | |
|-----------------------|--|---|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Start Trivia • Send invitation to opponent • Keep track of score • Check if answer is correct • Decide who won/lost and distribute ACS accordingly | Collaborators: <ul style="list-style-type: none"> • ACSManager • QuestionsManager • NotificationsManager |

Class name: DebateManager

| | | |
|-----------------------|--|---|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Send debate question to users accordingly • Decide who won debate and give ACS • Keep track of votes | Collaborators: <ul style="list-style-type: none"> • QuestionsManager • ACSManager • NotificationsManager |

Class name: QuestionsManager

| | | |
|-----------------------|--|---|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Get random question of certain type • Create list for trivia questions • Delete question • Add new question • Debate • Daily Question | Collaborators: <ul style="list-style-type: none"> • TriviaManager • DebateManager |

Class name: Questions

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Store trivia questions for each tier• Store debate questions for each tier• Getters and setters | Collaborators: <ul style="list-style-type: none">• QuestionsManager |

Class name: NotificationsManager

| | | |
|-----------------------|---|--|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Organize list of notifications• Delete notification• Add notification | Collaborators: <ul style="list-style-type: none">• TriviaManager• DebateManager• PicksManager• Notifications• OpenCourtManager |

Class name: Notifications

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Store Notifications of a user with their different types• Unanswered debate questions• Trivia requests• Unseen responses to discussion posts | Collaborators: <ul style="list-style-type: none">• NotificationsManager |

Class name: RadarManager

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Getters and setters• Add to radar• Delete from radar• Change top 3 | Collaborators: <ul style="list-style-type: none">• ProfileManager• ProfilePage• RadarPage• Radar |

Class name: Radar

| | | |
|---------------|-------------------|----------------|
| Parent Class: | | |
| Subclasses: | Responsibilities: | Collaborators: |

| | | |
|--|--|--|
| | <ul style="list-style-type: none"> • Stores ACS score of top 3 • Stores list of all people following in radar • Getters and setters | <ul style="list-style-type: none"> • RadarManager |
|--|--|--|

Class name: ACS

| | | |
|---------------|---|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Store ACS score and its breakdowns • Getters and setters | Collaborators: <ul style="list-style-type: none"> • RadarPage • ProfileManager |

Class name: ProfileManager

| | | |
|-----------------------|---|--|
| Parent Class: Manager | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Getters and setters for most profile details: <ul style="list-style-type: none"> ○ Username ○ Email ○ Password ○ Profile Picture ○ etc. | Collaborators: <ul style="list-style-type: none"> • RadarPage • AccountManager |

Class name: OpenCourtManager

| | | |
|----------------------|---|--|
| Parent Class:Manager | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Order list of posts by new, top, best • Search posts by name | Collaborators: <ul style="list-style-type: none"> • Posts • AccountManager • NotificationsManager |

Class name: Posts

| | | |
|---------------|--|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> • Have access to database of posts • Get from database • Add to database • Delete from database | Collaborators: <ul style="list-style-type: none"> • OpenCourtManager |

Frontend Classes

Class name: Component

| | | |
|--|--|---|
| Parent Class: | | |
| Subclasses: <ul style="list-style-type: none">• RadarList• BottomNavigation• TopNavigation | Responsibilities: <ul style="list-style-type: none">• Flutter related code that allows the class to be used as a component in pages. | Collaborators: <ul style="list-style-type: none">• RadarList• BottomNavigation• TopNavigation |

Class name: BottomNavigation

| | | |
|-------------------------|--|--|
| Parent Class: Component | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Stores the view of the BottomNavigation component, and calls the respective Page when the buttons are pressed. | Collaborators: <ul style="list-style-type: none">• ZonePage• ProfilePage• LivePage• Component |

Class name: TopNavigation

| | | |
|-------------------------|--|--|
| Parent Class: Component | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Stores the view of the TopNavigation component, which has a back button and a settings button.• Calls the respective Page when the buttons are pressed.• Also has the name of the current Page | Collaborators: <ul style="list-style-type: none">• SettingsPage• Page• Component |

Class name: LoginPage

| | | |
|---------------|---|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Displays username and password boxes• Displays a forgot password button• Calls AccountManager classes when the "Login" button is called | Collaborators: <ul style="list-style-type: none">• RegisterPage• ForgotPWPage |

Class name: RegisterPage

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays boxes where users enter information needed to register | Collaborators: <ul style="list-style-type: none"> AccountManager LoginPage ProfileManager OpenCourtPage |

Class name: ForgotPWPage

| | | |
|---------------|--|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Change/Update password after verification from Profile | Collaborators: <ul style="list-style-type: none"> LoginPage ProfileManager |

Class name: ZonePage

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Display buttons that link to the 4 activity pages | Collaborators: <ul style="list-style-type: none"> OpenCourtPage TriviaHomePage DiscussionPage PicksPage |

Class name: PicksPage

| | | |
|---------------|--|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays teams in list and bracket format Allows drag and drop between teams to order picks | Collaborators: <ul style="list-style-type: none"> ProfileManager |

Class name: OpenCourtPage

| | | |
|---------------|--|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays posts with title and text of topics posted by users When a post is clicked opens the post in a separate page Allows users to create | Collaborators: <ul style="list-style-type: none"> CreatePostPage PostPage LoginPage OpenCourtManager ProfilePage |

| | | |
|--|---|--|
| | a post of their own with a click of a button | |
|--|---|--|

Class name: CreatePostPage

| | | |
|---------------|--|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays text box for user to enter title and post content | Collaborators: <ul style="list-style-type: none"> OpenCourtPage OpenCourtManager |

Class name: PostPage

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays the post that was clicked on in detail | Collaborators: <ul style="list-style-type: none"> OpenCourtPage OpenCourtManager ProfilePage |

Class name: TriviaHomePage

| | | |
|---------------|--|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays buttons that give the user the option to play alone, against someone in their radar list, or a stranger | Collaborators: <ul style="list-style-type: none"> TriviaPage TriviaAnswersPage |

Class name: TriviaPage

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none"> Displays questions from the user's tier Either gives the user four answers to choose from or a text entry line for their answer Has countdown timer (14 seconds per question for solo trivia, 10 seconds for head to head trivia) | Collaborators: <ul style="list-style-type: none"> TriviaHomePage TriviaAnswersPage TriviaManager |

Class name: TriviaAnswersPage

| | | |
|---------------|--|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Displays the correct answer for the trivia question• Updates the ACS scores accordingly | Collaborators: <ul style="list-style-type: none">• TriviaPage• TriviaManager• ProfilePage |

Class name: DiscussionPage

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Displays users comments and discussion messages | Collaborators: <ul style="list-style-type: none">• ProfileManager• DebateManager• ProfilePage |

Class name: SettingsPage

| | | |
|---------------|---|---|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Displays and inputs for profile details• Logout button | Collaborators: <ul style="list-style-type: none">• ProfileManager |

Class name: ProfilePage

| | | |
|---------------|--|--|
| Parent Class: | | |
| Subclasses: | Responsibilities: <ul style="list-style-type: none">• Displays details on the user such as their name, ACS, ACS history• Shows Radar list of top 3 followers• Display top picks and past picks | Collaborators: <ul style="list-style-type: none">• RadarPage• PicksPage• ACSManager• RadarManager |

Class name: RadarPage

| | | |
|---------------|-------------------|----------------|
| Parent Class: | | |
| Subclasses: | Responsibilities: | Collaborators: |

| | | |
|--|---|--|
| | <ul style="list-style-type: none">• Displays the ACS score of users being followed• Calls the ProfilePage to view a specific user's profile with its ACS score | <ul style="list-style-type: none">• ProfilePage• RadarManager |
|--|---|--|

