

System Design

SportCred

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CRC cards

Backend Classes

Class name: Main

Parent Class: None		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Initialize the program, and make connection to database	Collaborators: <ul style="list-style-type: none">• LoginPage• AccountManager

Class name: Manager

Parent Class:		
Subclasses: <ul style="list-style-type: none">• AccountManager• ACSManager• PicksManager• QuestionsManager• NotificationsManager	Responsibilities: <ul style="list-style-type: none">• Obtain the username• Login the user• Store the current user	Collaborators: <ul style="list-style-type: none">• AccountManager• ACSManager• PicksManager• QuestionsManager• NotificationsManager

Class name: AccountManager

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

Class name: ACSManager

Parent Class: Manager		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Get current Score• Get history of ACS score• Get ACS breakdown	Collaborators: <ul style="list-style-type: none">• ACS• PicksManager• TriviaManager• DebateManager

Class name: PicksManager

Parent Class: Manager		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• View Past picks• Update Picks• Delete Picks	Collaborators: <ul style="list-style-type: none">• QuestionsManager• ACSManager• NotificationsManager

Class name: TriviaManager

Parent Class: Manager		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Start a Trivia• Send an 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• 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 a notification	Collaborators: <ul style="list-style-type: none">• TriviaManager• DebateManager• PicksManager• Notifications• TheZoneManager

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">• Add user to radar• Delete user from radar• Change top 3 users on the radar list	Collaborators: <ul style="list-style-type: none">• ProfileManager• ProfilePage• RadarPage• Radar

Class name: Radar

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Stores ACS score of top 3 • Stores list of all people following in radar • Getters and setters 	Collaborators: <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: TheZoneManager

Parent Class:Manager		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Order list of posts by new, top, best	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	Collaborators: <ul style="list-style-type: none">• TheZoneManager

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">• OpenCourtPage• 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 clicked 	Collaborators: <ul style="list-style-type: none"> • RegisterPage • ForgotPWPage • OpenCourtPage • ProfileManager

Class name: RegisterPage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Displays boxes where users enter information needed to register (including name, username, and password) 	Collaborators: <ul style="list-style-type: none"> • LoginPage • ProfileManager • QuestionnairePage • AccountManager

Class name: QuestionnairePage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Displays fields where users enter answers about their sports backgrounds 	Collaborators: <ul style="list-style-type: none"> • RegisterPage • OpenCourtPage • AccountManager

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 • AccountManager

Class name: OpenCourtPage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Displays the 4 activity pages (The Zone, Picks, Trivia, Analyze) 	Collaborators: <ul style="list-style-type: none"> • LoginPage • QuestionnairePage • CourtCardWidget • BottomNavigation

Class name: CourtCardWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Creates card that displays the connecting activity (shows activity's title and image) and links to it 	Collaborators: <ul style="list-style-type: none"> • OpenCourtPage • TheZonePage • PicksPage • TriviaHomePage • DebateHomePage

Class name: TheZonePage

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 a post of their own with a click of a button	Collaborators: <ul style="list-style-type: none">• OpenCourtPage• AddPostWidget• PostWidget• TheZoneManager

Class name: AddPostWidget

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">• TheZonePage• Posts

Class name: PostWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays title of post, description of post, and the number of upvotes• Allows user to upvote	Collaborators: <ul style="list-style-type: none">• TheZonePage• PostPage• Posts

Class name: PostPage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays the post that was clicked on in detail (including which user made the post, the post's title and description, and the number of upvotes)• Allows user to order comments (top comments, new comments)	Collaborators: <ul style="list-style-type: none">• PostWidget• CommentWidget

Class name: CommentWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays the name of the individual who wrote the comment, the comment itself, and the number of upvotes the comment received• Allows user to upvote the comment	Collaborators: <ul style="list-style-type: none">• PostPage

Class name: PicksPage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays teams in vertical list and bracket format• Allows user to click on teams they believe will be the matchup winners• Displays teams that user selected to advance as pick options for the next tiered round	Collaborators: <ul style="list-style-type: none">• OpenCourtPage• PickWidget• PicksManager

Class name: PickWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays the basketball team's logo and the name of team in a white box• When user clicks on the team, the team is selected and the box turns green	Collaborators: <ul style="list-style-type: none">• PicksPage• PicksManager

Class name: PicksHistoryPage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Allows user to choose which playoff season picks they want to view from a dropdown list• Displays the teams that the user believed would be the matchup winners	Collaborators: <ul style="list-style-type: none">• ProfilePage• PickWidget• PicksManager

Class name: TriviaHomePage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Gives user the option to play alone or against another• Gives user option to play against someone in their radar list or a random opponent when "Head-to-head" is pressed	Collaborators: <ul style="list-style-type: none">• OpenCourtPage• TriviaCardWidget

Class name: TriviaCardWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays random opponent option and those on the user's radar list for user to click to play against	Collaborators: <ul style="list-style-type: none">• TriviaHomePage• TriviaPage• Radar

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)• For the questions with four answers as options, show the user if their selected answer is correct or incorrect• Updates the ACS scores accordingly	Collaborators: <ul style="list-style-type: none">• TriviaHomePage• TriviaCardWidget• TriviaManager• ProfileManager

Class name: DebateHomePage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays the date• Displays the day's debate questions that user should analyze	Collaborators: <ul style="list-style-type: none">• OpenCourtPage• DebateWidget• ProfileManager• DebateManager

Class name: DebateWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays the debate question	Collaborators: <ul style="list-style-type: none">• DebateHomePage• DebatePage

Class name: DebatePage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays the debate question in its entirety• Displays the analyses of other users• Gives user option of submitting their debate response	Collaborators: <ul style="list-style-type: none">• DebateWidget• DebateResponseWidget• DebateManager• ProfileManager

Class name: DebateResponseWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays a user's debate analysis• Allows other users to rate the debate response on an agreeance sliding scale (0 to 100, 100 meaning highly agree)	Collaborators: <ul style="list-style-type: none">• DebatePage• ProfileManager• DebateManager

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• Gives user option to view their past picks• Gives user option to view a breakdown of their ACS	Collaborators: <ul style="list-style-type: none">• RadarPage• UpdateProfilePage• PicksHistoryPage• ACSWidget• BottomNavigation• ProfileManager• ACSManager• RadarManager

Class name: UpdateProfilePage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none">• Displays user's name, username, and email• Displays fields where user can enter desired changes to their profile details (e.g. name, password)	Collaborators: <ul style="list-style-type: none">• ProfilePage• ProfileManager

Class name: ACSWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Displays user's ACS and ACS breakdown chart with activity points as labels • Displays ACS breakdown in terms of activity percentages (e.g. shows what percentage of the ACS is from points earned from Picks and Predictions) • Gives user option to view their ACS history based on activity 	Collaborators: <ul style="list-style-type: none"> • ProfilePage • ACSHistoryPage • ProfileManager • ACSManager

Class name: ACSHistoryPage

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Displays history of user's ACS 	Collaborators: <ul style="list-style-type: none"> • ACSWidget • ACSHistoryWidget • ACSManager

Class name: ACSHistoryWidget

Parent Class:		
Subclasses:	Responsibilities: <ul style="list-style-type: none"> • Displays activity that altered ACS and the point increase/decrease 	Collaborators: <ul style="list-style-type: none"> • ACSHistoryPage • ACSManager

Class name: RadarPage

Parent Class:		
Subclasses:	Responsibilities: <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	Collaborators: <ul style="list-style-type: none">• ProfilePage• RadarManager

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

