# Detailed Use Cases

## Register

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| Function Name | Register\_user |
| Description | Allows a player or coach to register in the system by providing necessary details. |
| Input | - Full Name  - Email  - Password  - User Type (Player/Coach) |
| Output | - Success message: "Registration Successful!"  - Account created in the system. |
| Action | 1. User navigates to the registration page.  2. The system displays a registration form.  3. User fills in their details (e.g., name, email, password).  4. The system validates inputs for correctness and uniqueness.  5. If validation passes, the system stores the user’s data in the database.  6. The system sends an activation email to the user.  7. User sees a success message: "Registration Successful! Please verify your email." |
| Precondition | - User must provide valid details (unique email, strong password). |
| Postcondition | - User account is created but requires activation (e.g., email verification). |
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## Login

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| Function Name | login\_user |
| Description | Allows a registered user to log in to the system by providing their credentials. |
| Input | - Email - Password |
| Output | - Success message: 'Login Successful!' - Redirect to the user dashboard. |
| Action | 1. User navigates to the login page. 2. System displays a login form. 3. User enters their email and password. 4. System validates the credentials against stored records in the database. 5. If credentials are correct, the system logs the user in and redirects them to the dashboard. 6. If credentials are incorrect, the system displays an error message: 'Invalid email or password.' |
| Precondition | - User must have an active and verified account. |
| Postcondition | - User is authenticated and can access their dashboard and system features. |
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## Logout

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| Function Name | logout\_user |
| Description | Logs the user out of the system and clears their session. |
| Input | None |
| Output | - Success message: 'Logout Successful!' - Redirect to the home page. |
| Action | 1. User clicks the 'Logout' button in the system. 2. System invalidates the user’s session or token. 3. System clears any stored session data (e.g., cookies). 4. User is redirected to the home page with a message: 'Logout Successful!' |
| Precondition | - User must be logged in. |
| Postcondition | - User is logged out, and session data is cleared. |
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## Upload Video

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| Function Name | upload\_video |
| Description | Allows users to upload videos for analysis. |
| Input | - Video file (e.g., MP4, AVI) - Title/Description (optional) |
| Output | - Success message: 'Video uploaded successfully!' - Video saved in the system storage. |
| Action | 1. User navigates to the upload page. 2. System displays an upload form. 3. User selects a video file from their device and optionally provides a title/description. 4. System validates the file type and size. 5. If validation passes, the system uploads and stores the video in the database or file storage. 6. System displays a success message: 'Video uploaded successfully!' |
| Precondition | - User must be logged in. |
| Postcondition | - Video is uploaded and available for analysis. |
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## Analyze Video

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| Function Name | analyze\_video |
| Description | Analyzes the uploaded video for performance metrics. |
| Input | - Video file |
| Output | - Performance metrics (e.g., speed, accuracy). |
| Action | 1. User selects an uploaded video for analysis. 2. System retrieves the video file from storage. 3. System processes the video using video analysis algorithms. 4. System generates a report with key performance metrics. 5. User is presented with the analysis results in the dashboard. |
| Precondition | - Video must be uploaded to the system. |
| Postcondition | - Analysis results are available for viewing and feedback. |
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## Provide Feedback

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| Function Name | provide\_feedback |
| Description | Enables coaches to provide feedback on analyzed videos. |
| Input | - Feedback text - Optional attachment (e.g., image, file). |
| Output | - Success message: 'Feedback submitted successfully!' |
| Action | 1. Coach navigates to the analyzed video. 2. System displays a feedback form. 3. Coach enters feedback and optionally uploads an attachment. 4. System validates and stores the feedback in the database. 5. Feedback is linked to the corresponding video and user. |
| Precondition | - Video analysis must be completed. |
| Postcondition | - Feedback is stored and visible to the corresponding user. |
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## View Top Players

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| Function Name | view\_top\_players |
| Description | Displays a leaderboard of the top-performing players. |
| Input | None |
| Output | - List of top players with their performance metrics. |
| Action | 1. User navigates to the 'Top Players' page. 2. System retrieves player performance data from the database. 3. System calculates rankings based on predefined criteria. 4. System displays the leaderboard with player details and rankings. |
| Precondition | - Performance data must exist for players. |
| Postcondition | - Leaderboard is displayed with updated rankings. |
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## Chat

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| Function Name | chat |
| Description | Enables real-time communication between players and coaches. |
| Input | - Message text |
| Output | - Sent message displayed in the chat interface. |
| Action | 1. User navigates to the chat page. 2. System displays the chat interface. 3. User enters a message and sends it. 4. System validates and stores the message. 5. System broadcasts the message in real-time to the recipient. |
| Precondition | - User must be logged in. |
| Postcondition | - Message is delivered and stored in the chat history. |
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