

## Subject to change

Logger	
- Maintain log of notifications - Maintain DBProxy log	- Notifier - DBProxy

Notifier (publisher subscriber / observer pattern)	
- Store subscribers - Add subscribers - Remove subscribers - Notify subscribers with Message - Log to Logger	- Logger - Message

Message	
- Store notification data <ul style="list-style-type: none"><li>- Content</li><li>- Date</li><li>- Organizer</li></ul>	- Notifier

DBProxy (proxy pattern)	
- Authenticate requests - Route requests to corresponding firebase databases - Log requests to Logger - Optional: cache common queries	- EventDB - UserDB - OrganizerDB - AdminDB - Logger - Optional: decouple into AuthenticationService

EventDB	
- Store events - Add events - Read events - Update events - Delete events	- DBProxy - Event

Event	
<ul style="list-style-type: none"> <li>- Store event data           <ul style="list-style-type: none"> <li>- Name</li> <li>- Description</li> <li>- Time</li> <li>- Place</li> <li>- Poster</li> <li>- Organizer</li> <li>- Entrants</li> <li>- Attendees</li> <li>- Image</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- EventsDB</li> </ul>

UserDB	
<ul style="list-style-type: none"> <li>- Store user profiles</li> <li>- Update profile information</li> <li>- Delete profiles</li> <li>- Fetch user history</li> </ul>	<ul style="list-style-type: none"> <li>- DBProxy</li> <li>- User</li> </ul>

User	
<ul style="list-style-type: none"> <li>- Device ID</li> <li>- Store personal info (name, email, phone)</li> <li>- Join/leave waiting lists</li> <li>- Accept or decline invitations</li> <li>- View event history</li> <li>- Manage notification preferences</li> </ul>	<ul style="list-style-type: none"> <li>- UserDB</li> <li>- Event</li> <li>- Notifier</li> </ul>

OrganizerDB	
<ul style="list-style-type: none"> <li>- Store organizer accounts</li> <li>- Retrieve organizer events</li> </ul>	<ul style="list-style-type: none"> <li>- DBProxy</li> <li>- Organizer</li> </ul>

Organizer	
<ul style="list-style-type: none"> <li>- Create and manage events</li> </ul>	<ul style="list-style-type: none"> <li>- OrganizerDB</li> </ul>

<p>Upload/update event posters</p> <ul style="list-style-type: none"> <li>- Enable/disable geolocation requirement</li> <li>- Trigger lottery draw</li> <li>- View entrants and attendees</li> <li>- Send notifications</li> <li>- Export final attendee list</li> </ul>	
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AdminDB	
<ul style="list-style-type: none"> <li>- Store admin accounts</li> </ul>	<ul style="list-style-type: none"> <li>- DBProxy</li> <li>- Admin</li> </ul>

Admin	
<ul style="list-style-type: none"> <li>- Remove events</li> <li>- Remove users and organizers</li> <li>- Remove uploaded images</li> <li>- Browse events, profiles, images</li> <li>- Review notification logs</li> </ul>	<ul style="list-style-type: none"> <li>- AdminDB</li> <li>- Logger</li> <li>- EventDB</li> <li>- UserDB</li> </ul>

MainActivity	
<ul style="list-style-type: none"> <li>- Handle navigation between fragments</li> </ul>	<ul style="list-style-type: none"> <li>- SingInFragment</li> <li>- HomeFragment</li> <li>- ProfileFragment</li> <li>- SettingsFragment</li> <li>- EventCreationFragment</li> <li>- EventDetailsFragment</li> <li>- NotificationsFragment</li> <li>- MapFragment</li> <li>- QRScanFragment</li> <li>- AdminDashboardFragment</li> </ul>

SingInFragment	
<ul style="list-style-type: none"> <li>- Render UI on state change</li> <li>- Pass user input to SingInController</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- SingInController</li> </ul>

SignInController	
<ul style="list-style-type: none"> <li>- Handle state</li> <li>- Authenticate user</li> <li>- Interact with database</li> <li>- Optional: single-sign on with Google account</li> </ul>	<ul style="list-style-type: none"> <li>- SignInFragment</li> <li>- DBProxy</li> <li>- User</li> <li>- Organizer</li> <li>- Admin</li> </ul>

HomeFragment	
<ul style="list-style-type: none"> <li>- Display event listings</li> <li>- Support filters (interest, availability)</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- HomeController</li> </ul>

HomeController	
<ul style="list-style-type: none"> <li>- Fetch events</li> <li>- Apply filters</li> <li>- Update UI state</li> </ul>	<ul style="list-style-type: none"> <li>- HomeFragment</li> <li>- DBProxy</li> <li>- Event</li> </ul>

ProfileFragment	
<ul style="list-style-type: none"> <li>- Display and edit user profile</li> <li>- Show event history</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- ProfileController</li> </ul>

ProfileController	
<ul style="list-style-type: none"> <li>- Load/update user profile</li> <li>- Delete profile</li> </ul>	<ul style="list-style-type: none"> <li>- ProfileController</li> <li>- DBProxy</li> <li>- User</li> </ul>

SettingsFragment	
<ul style="list-style-type: none"> <li>- Display app and notification settings</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- SettingsController</li> </ul>

SettingsController	
- Update user preferences	- SettingsFragment - DBProxy - User

EventCreationFragment	
- Collect event details - Upload poster - Submit event creation	- MainActivity - EventCreationController

EventCreationController	
- Create Event - Store event in DB	- EventCreationFragment - DBProxy - Event

EventDetailsFragment	
- Display event details - Allow waiting list registration	- MainActivity - EventDetailsController

EventDetailsController	
- Load event details - Handle join/leave waiting list	- EventDetailsFragment - DBProxy - Event

NotificationsFragment	
- Display notifications - Mark notifications as read	- MainActivity - NotificationsController

NotificationsController	
- Get notification history - Mark notifications as read	- NotificationsFragment - Notifier - Message

MapFragment	
<ul style="list-style-type: none"> <li>- Display entrant locations for a specific event</li> <li>- Handle map UI interactions (zoom, pan, markers)</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- MapController</li> </ul>

MapController	
<ul style="list-style-type: none"> <li>- Display entrant join locations</li> <li>- Implement Google maps API</li> </ul>	<ul style="list-style-type: none"> <li>- MapFragment</li> <li>- DBProxy</li> <li>- Event</li> <li>- User</li> </ul>

QRScanFragment	
<ul style="list-style-type: none"> <li>- Fetch geolocation data</li> <li>- Provide map markers</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- QRScanController</li> </ul>

QRScanController	
<ul style="list-style-type: none"> <li>- Scan QR codes</li> <li>- Navigate to event details</li> </ul>	<ul style="list-style-type: none"> <li>- QRScanFragment</li> </ul>

AdminDashboardFragment	
<ul style="list-style-type: none"> <li>- Display notification logs</li> <li>- Display lists of Events Profiles Organisers</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- AdminDashboardController</li> </ul>

AdminDashboardController	
<ul style="list-style-type: none"> <li>- Display admin tools</li> <li>- Remove events, profiles, organisers</li> </ul>	<ul style="list-style-type: none"> <li>- AdminDashboardFragment</li> <li>- DBProxy</li> <li>- Event</li> <li>- User</li> <li>- Organizer</li> </ul>