

## Subject to change

Logger	
<ul style="list-style-type: none"><li>- Maintain log of notifications</li><li>- Maintain DBProxy log</li></ul>	<ul style="list-style-type: none"><li>- Notifier</li><li>- DBProxy</li></ul>

Notifier (publisher subscriber / observer pattern)	
<ul style="list-style-type: none"><li>- Store subscribers</li><li>- Add subscribers</li><li>- Remove subscribers</li><li>- Notify subscribers with Message</li><li>- Log to Logger</li></ul>	<ul style="list-style-type: none"><li>- Logger</li><li>- Message</li></ul>

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

DBProxy (proxy pattern)	
<ul style="list-style-type: none"><li>- Authenticate requests</li><li>- Route requests to corresponding firebase databases</li><li>- Log requests to Logger</li><li>- Optional: cache common queries</li></ul>	<ul style="list-style-type: none"><li>- EventDB</li><li>- UserDB</li><li>- OrganizerDB</li><li>- AdminDB</li><li>- Logger</li><li>- Optional: decouple into AuthenticationService</li></ul>

EventDB	
<ul style="list-style-type: none"><li>- Store events</li><li>- Add events</li><li>- Read events</li><li>- Update events</li><li>- Delete events</li></ul>	<ul style="list-style-type: none"><li>- DBProxy</li><li>- Event</li></ul>

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>

Upload/update event posters - Enable/disable geolocation requirement - Trigger lottery draw - View entrants and attendees - Send notifications - Export final attendee list	
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AdminDB	
- Store admin accounts	- DBProxy - Admin

Admin	
- Remove events - Remove users and organizers - Remove uploaded images - Browse events, profiles, images - Review notification logs	- AdminDB - Logger - EventDB - UserDB

MainActivity	
- Handle navigation between fragments	- SingInFragment - HomeFragment - ProfileFragment - SettingsFragment - EventCreationFragment - EventDetailsFragment - NotificationsFragment - MapFragment - QRScanFragment - AdminDashboardFragment

SignInFragment	
- Render UI on state change - Pass user input to SignInController	- MainActivity - SignInController

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	
<ul style="list-style-type: none"> <li>- Update user preferences</li> </ul>	<ul style="list-style-type: none"> <li>- SettingsFragment</li> <li>- DBProxy</li> <li>- User</li> </ul>

EventCreationFragment	
<ul style="list-style-type: none"> <li>- Collect event details</li> <li>- Upload poster</li> <li>- Submit event creation</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- EventCreationController</li> </ul>

EventCreationController	
<ul style="list-style-type: none"> <li>- Create Event</li> <li>- Store event in DB</li> </ul>	<ul style="list-style-type: none"> <li>- EventCreationFragment</li> <li>- DBProxy</li> <li>- Event</li> </ul>

EventDetailsFragment	
<ul style="list-style-type: none"> <li>- Display event details</li> <li>- Allow waiting list registration</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- EventDetailsController</li> </ul>

EventDetailsController	
<ul style="list-style-type: none"> <li>- Load event details</li> <li>- Handle join/leave waiting list</li> </ul>	<ul style="list-style-type: none"> <li>- EventDetailsFragment</li> <li>- DBProxy</li> <li>- Event</li> </ul>

NotificationsFragment	
<ul style="list-style-type: none"> <li>- Display notifications</li> <li>- Mark notifications as read</li> </ul>	<ul style="list-style-type: none"> <li>- MainActivity</li> <li>- NotificationsController</li> </ul>

NotificationsController	
<ul style="list-style-type: none"> <li>- Get notification history</li> <li>- Mark notifications as read</li> </ul>	<ul style="list-style-type: none"> <li>- NotificationsFragment</li> <li>- Notifier</li> <li>- Message</li> </ul>

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>