1. Event

Responsibilities:

Store details about an event (title, description, date, location, QR code, etc.).

Generate a unique QR code for check-ins.

Track and update attendee check-ins.

Collaborators:

QRCodeGenerator

DatabaseManager (Firebase)

EventOrganizer

2. QRCodeGenerator

Responsibilities:

Generate QR codes for new events.

Possibly regenerate or decode QR codes if necessary.

Collaborators:

Event

3. EventOrganizer

Responsibilities:

Create and manage events.

Send notifications to attendees.

View real-time attendance and check-in data.

Collaborators:

Event

NotificationManager

DatabaseManager (Firebase)

4. Attendee

Responsibilities:

Check into events by scanning QR codes.

View event details and receive notifications.

Upload and manage profile picture.

Collaborators:

QRScanner

ProfileManager

DatabaseManager (Firebase)

5. QRScanner

Responsibilities:

Scan QR codes provided by the attendees.

Validate check-in by comparing scanned data with event details.

Collaborators:

Attendee

Event

6. DatabaseManager (Firebase)

Responsibilities:

Handle all data transactions with Firebase (Firestore for data, Storage for images).

Manage real-time updates for event check-ins and attendee lists.

Store and retrieve event posters and attendee profile pictures.

Collaborators:

Event

EventOrganizer

Attendee

7. NotificationManager

Responsibilities:

Send push notifications to attendees (event updates, reminders, etc.).

Allow organizers to broadcast messages to all event attendees.

Collaborators:

EventOrganizer

Attendee

8. ProfileManager

Responsibilities:

Manage attendee profiles (uploading/removing profile pictures, updating info).

Generate deterministic profile pictures if not uploaded.

Collaborators:

Attendee

DatabaseManager (Firebase)