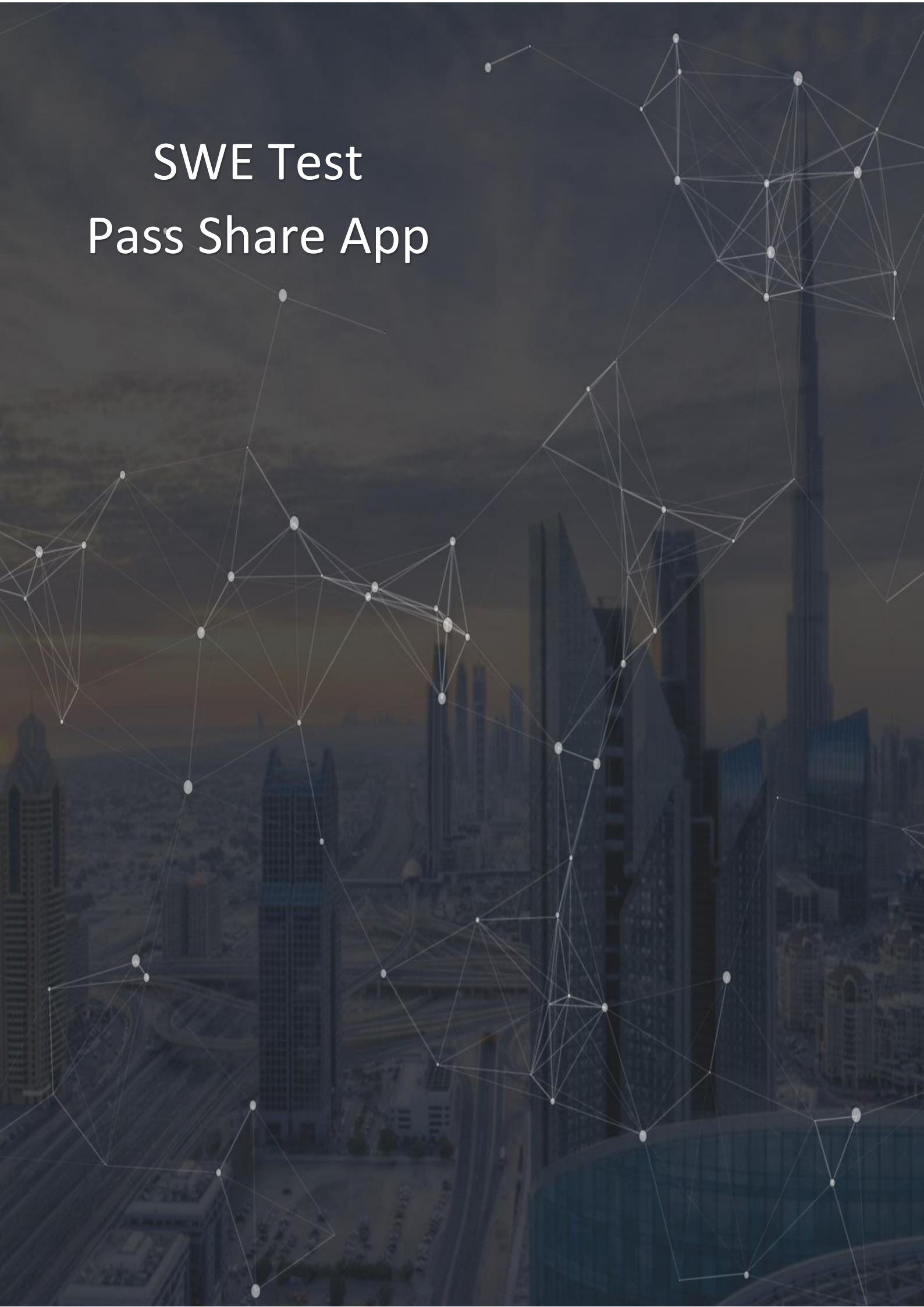
SWE Test
Pass Share App

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Introduction

Pass Share App is a mobile application that revolutionizes the way passes to secured compounds or gated communities are exchanged. It connects property owners and access seekers in a user-friendly marketplace. The app ensures a secure and efficient ecosystem for pass sharing, introducing innovative features that redefine the access exchange process.

The sign-up and login process are simple and secure, using mobile OTP authentication for easy entry into the app. User identity and authenticity is a priority, and Pass Share incorporates third-party KYC integration for National ID verification and Face ID matching to enhance trust among users.
Pass Share streamlines property ownership verification by allowing owners to upload their ownership contracts, promoting transparency.

Access seekers have control over their pass requirements and can create, view, update, and delete listing requests. Property owners can effortlessly fulfill listing requests by uploading pass images and sharing them with the requesters.

Payment transactions are secure and convenient, with integrated card payments in the app. Sensitive card information is protected through tokenization techniques.
Users have visibility and control over transactions, managing their payment history and addressing any concerns. Property owners can efficiently manage payouts, ensuring a transparent financial transaction process. They also have control over their bank information for accurate and timely payouts.

Comprehensive property ownership tools enable property owners to create, edit, and delete properties, providing essential details and images to fulfill access seekers.
Pass Share offers a personalization options such as language customization, easy mobile number management for seamless communication and also users can opt-in to receive personalized notifications about pass requests, fulfillment, transactions, and more.

Pass sharing is made simple, allowing passes to be effortlessly shared through the app or via a link to external channels.

Pass Share represents a transformative approach to property access exchange, creating a secure, efficient, and user-focused marketplace. It empowers property owners and access seekers, providing a holistic platform for seamless pass exchange.

Target Audience & Platform Components

- **Individual Users [Mobile Apps (iOS & Android)]**:
    - The app will be developed as a mobile application for both iOS and Android platforms. Thisallows users to conveniently access the app's features and functionalities on their smartphones or tablets. There should be support for wearables for notifications.
    - The app targets individuals who want to visit compounds as well as who has the ownershipof compounds.
- **Admin (Web-Based Admin Panel)**:
    - The administration panel serves as a backend interface for app administrators to view andmanage users as well as monitor the different metrics of the app.

Users (Access Seekers & Property Owners) Functionality

- **Sign-Up and Login**:
  - User-friendly registration and login process with mobile OTP authentication, prioritizing convenience and security. Users can login with device biometrics (Face ID or Fingerprint) if they grant access to that option.
  - Users can be logged in on one device only at a time. A new login on another device automatically logs out the user from any previous device.
- **National ID Verification, Face ID Match & 3D Liveness**:
  - Users verify their national ID through a trusted third-party service, and match it with a captured video of their Face with a random action to do (like look to the left or smile) to enhance credibility and build trust among users.
  - Users must update their expired National IDs within 30 days from it expiry if they wish to continue using the app. Otherwise, all features will be locked until it's updated along with a Face ID match.
- **Property Ownership Verification**:
  - Property owners upload ownership contracts to streamline verification, promoting transparency for listed properties. Admins will review and confirm these requests before property owners can fulfill pass requests.
- **Listing Request Creation**:
  - Users create customized listing requests tailored to their specific requirements by selecting the compound then selecting the pass type(s) needed and their respective quantities.
  - Users can browse through a variety of secured compounds, exploring available pass types that match their needs.
  - Users must select arrival time range (30 minutes) for location restricted passes.
  - Users can schedule requests to a specific date in the future. When 12:00 AM of that day comes, it should be listed and the user will receive a notification that it's live.
  - All listings should expire and delisted by 12:00 AM of the following day.
  - A user can edit a listing to change quantities of a pass, add/remove pass types or change the compound. A confirmation message should appear before the changes specially if the request was already partially filled. A fully fulfilled request can't be edited.
- **Request Fulfillment**:
  - Property owners effortlessly fulfill listing requests by uploading pass images, ensuring smooth access for users.
  - Passes typically are valid for the same day that they were shared on and should be labeled as expired by 12:00 AM of the following day.
  - More than one user can fulfill a request (one user can fulfill partially).
  - A user can add passes for the day to be auto-filled whenever there's a request.
  - A user should be notified if their shared pass(es) (or subset of their shared passes) was not used (access seeker changed their mind)
- **Pass Management**:
  - Users have complete control over their passes, enabling them to view or share them with other users or to external apps via a link.

    - Users can request location for their purchased passes before entrance (if it's within the provided arrival time) and the property owner has to verify it within X minutes. If the property owner doesn't verify their location, the held amount is released from the requesting user and a penalty is applied to the wallet of the property owner equivalent to X% of the total price or a flat fee (adjustable from the admin dashboard).
    - Requesting user can change their arrival time pending a confirmation from the property owner. If rejected then, they can choose to cancel their request and re-list their request with the new time. The amount does not get released yet.
- **Secure Card Payments**:
    - Once a property owner fulfills a request, its status is changed to pending and removed from the listings temporarily.
    - Integrated card payment options enable access seeking user to make the payments for the requested passes.
    - Once the payment is successful, the access seeking user can see the passes shared by the property owner.
- **Transaction Management**:
    - Users can view their transaction history (successful and failed), monitor payment activities, and address any discrepancies (dispute a transaction with comment), to promote financial transparency.
- **Payout Management**:
    - Property owners can see their payout details and their statuses (including transaction reference and bank info) for their corresponding fulfilled pass requests, ensuring financial transparency and accuracy.
    - Property owners can securely manage their bank details, ensuring reliable and timely payouts. Bank details are typically added or changed with an OTP confirmation to the mobile number or biometric login (Face ID or Fingerprint)
    - Once a payout is added by an admin, the user will receive a notification.
- **Property Ownership Management**:
    - At any point, a user can create, edit, and delete their own property. A new property will be shown to admins and will be pending approval after reviewing the provided proof of ownership documents.
- **Language Customization**:
    - Users can select their preferred language (English or Arabic) for a personalized app experience based on their linguistic preferences.
    - The app should auto detect the device language in the splash screen and select it by default, the user can still change it if they want.
- **Mobile Number Management**:
    - Seamless communication is ensured through mobile number management, allowing users to update their contact information with an OTP confirmation to the old mobile number first then the new number.
- **Personalized Notifications**:
    - Users receive real-time notifications about pass requests, transactions, and important updates, keeping them informed.
- **Referral and Wallet Balance**:

- Users can get a referral bonus added to their balance (amount and limit is customized in the admin dashboard) by referring a friend. They get the amount once they buy or fulfill a pass

Admin Features & Functionality (web-based)

- **Login**
  - Admin can login to the admin portal using their email and password.
  - Admin will have the option to select forgot password to reset the password via email.
- **Compounds & Pass Types**
  - Admins have the ability to create, edit, delete available Compounds shown to users in the Listing request creation including name, image, location
  - For each Compound, admins can create, edit and delete pass types and their corresponding prices. There is an option to tick a check box where it's geo-restricted pass (property owner must be in the compound), for that they need to upload a KML file with the area required.
- **User and Property Oversight:**
  - Super admin portal offers a comprehensive view of registered users and listed properties.
  - Admins can manage user accounts, review user profiles, and ensure the quality of user information.
- **Dashboard and Analytics**
  - A dynamic dashboard provides real-time insights into platform metrics, user engagement,and key performance indicators.
  - Admins can analyze user activity trends, listing requests, transaction volumes, and popularcompounds.

Note: Considering a maximum of 10 charts for Analytics and Insights

- **National ID Verification Oversight**
  - Admins can access the results of the third-party national ID verification process.
  - They can review verification statuses, ensuring the credibility and authenticity of each user.
- **Property Ownership Verification Oversight**
  - The super admin can oversee property ownership verification by reviewing pending uploaded ownership contracts.
  - This oversight ensures that all listed properties adhere to transparency and authenticitystandards.
- **Pass Request Management**
  - Admins have access to pass requests made by users.
  - They can review, approve, or reject pass requests based on property owner approvals and platform guidelines.
- **Payment Receive from Users**
  - Admins will receive payments from users for pass purchases and then admin will distributeit outside the platform with property owners.
  - They can monitor payment statuses, ensure transaction security, and address

payment-related concerns.

- **Notification Management**
    - The super admin portal offers tools to manage notifications sent to users.
    - Admins can customize notification messages to keep users informed about important updates,ensuring effective communication. This can be used for on-demand announcements as well.
- **Support and User Assistance**
    - Admins can provide support to users by responding to queries and resolving issues
    - Communication tools allow admins to assist users effectively and enhance their experience.
    - The Super Admin oversees the scheduling and delivery of content expiration alerts, ensuring timely notifications are sent to users.

Task

Based on the description above:

1. Create an ERD for the entire database design for the app and admin panel.
2. Write the models file using Django and REST Framework for the created ERD.