

AdEarn (PWA)

1. Introduction

AdEarn is a PWA built using the MERN stack, enabling users to post and view ads while earning rewards in the form of stars. Stars can be earned through ad views, referrals, or purchases and can be redeemed for cash. The platform features both **user** and **admin** roles, with a structured workflow for ad placements, rewards, and monetization.

2. System Overview

AdEarn consists of two primary roles:

User Functionalities:

1. **Registration:** Users sign up with full details, including name, email, phone number (OTP verification), referral code(if have), and address.
2. **Login:** Users log in with a username and password.
3. **Welcome Bonus:** New users receive bonus stars upon their first login.
4. **User Dashboard:**
 - Search functionality for ads.
 - List of ads (including location-based ads).
 - Ad placement field.
 - Notifications and settings.
5. **2FA Authentication:** OTP verification via mobile and email.
6. **KYC Verification:** Required for redeeming stars.
7. **Referral Codes & Physical Coupons:** Users can redeem stars using these methods.

8. *Posting Ads:*

- Users spend stars to post ads.
- If insufficient stars, users can purchase them.
- Ads require admin approval.

9. *Ad Viewing & Rewards System:*

- Users select an ad package (e.g., 120 stars = 200 views).
- Reward distribution among viewers:
 - 72 users get 1 star each.
 - 5 users get 2 stars.
 - 4 users get 3 stars.
 - 4 users get 4 stars.
 - 2 users get 5 stars.
 - 113 users get no stars.

10. *Wallet System:*

- Earned Wallet (stars from ad views).
- Main Wallet (stars from referrals, coupons, purchases).

11. *Redeeming Stars:*

- Minimum threshold required.
- KYC verification is mandatory.
- Conversion factor applied to convert stars into real cash.

12. *Reports & Invoices:*

- Payment history and transactions.
- Ad views and earnings summary.
- Downloadable reports.

13. Notifications:

- Ad-related updates.
- Payment notifications.
- System alerts.

14. Ad Types:

- Video Ads.
- Text Ads (Preset Templates).
- Image Ads.
- Each ad type has a different star schema (Example: To post a video ad of less than 15 seconds say it will cost 5 stars extra compared to image ad...)

Admin Functionalities:

1. Registration:

- Admin registers via Postman.
- Can update details after first login.

2. Ad Approval & Rejection:

- Review and approve/reject user-submitted ads.

3. User Management:

- View all users with complete details.
- Track total ads posted, stars earned/spent, redeemed stars, and earnings.

4. Dashboard Statistics:

- Total ads posted (with unique IDs).
- Total user count.
- Total stars issued.
- Payment received.
- Ad statistics (per user, approved/rejected count).

5. *KYC Approval & Rejection:*

- Verify user KYC details before allowing redemptions.

3. Workflow Diagram

User Workflow:

1. User registers (OTP verification either mobile number/email user can opt).
2. Login (2FA enabled).
3. Receives welcome bonus.
4. Can post ads (if stars are available, otherwise purchase stars or can use welcome bonus stars and referral stars).
5. Ad sent for admin approval.
6. Approved ads are visible to other users.
7. Users view ads and earn stars based on random allocation.
8. Stars are stored in the *Earned Wallet*.
9. Once the threshold is met, stars can be redeemed for real cash.
10. Admin verifies KYC before approval .

Admin Workflow:

1. Approves or rejects ads.
2. Manages users and their activity.
3. Tracks total statistics on ads, users, and payments.
4. Verifies KYC before approving redemptions.
5. Detailed report of each and every ads

4. Security Measures

- **2FA Authentication** (Mobile & Email OTP)
- **JWT Authentication** for secure user sessions
- **KYC Verification** before star redemption
- **Data Encryption** for sensitive information

5. Payment & Wallet System

- Users can **purchase stars** using real money.
- **Two Wallets**: Earned (ad views) and Purchased (referrals, purchases).
- **Conversion Factor** for real cash withdrawals and star purchase.

8. Notifications & Reports

- **Ad-related notifications** (approval, rejection, expiry reminders).
- **Payment notifications**.
- **Downloadable Reports** (Total ad views, earnings, stars spent).

On both admin and user sides.

9. Technologies Used

- **Frontend**: React.js
- **Backend**: Node.js, Express.js
- **Database**: MongoDB

- ***Authentication:*** JWT, OTP verification (Twilio, Nodemailer)
- ***Payments:*** Razor Pay integration
- ***PWA Support:*** Service Workers, Web Manifest
- ***Deployment:*** AWS Docker (Optional)

Conclusion

AdEarn is a comprehensive platform integrating ad placements, user incentives, and admin controls. Users can leverage their engagement to earn stars, which can be used to place ads or converted to cash. The admin manages user activity, ad approvals, and financial transactions, ensuring smooth operation.

Future Enhancements

- *AI-based ad recommendations*
- *In app chat system between users*