IRCTC

Web/Mobile Application

Group Members and Roles

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About IRCTC

Introduction to IRCTC

- **Full Name**: Indian Railway Catering and Tourism Corporation (IRCTC).
- **Established**: 27th September 1999, as a Public Sector Undertaking (PSU) under Indian Railways.
- **Purpose**: To provide efficient and customer-friendly services for railway ticketing, catering, and tourism.
- **Key Offerings**: Train ticket bookings, catering services, tourism packages, and online railway reservations.

About IRCTC

Role of IRCTC in Indian Railways

- **Ticketing Platform**: The official platform for booking train tickets, offering online reservations for all types of trains (Express, Superfast, Mail, and more).
- **Catering Services**: Manages food and beverage services on trains and at railway stations across India.
- **Tourism & Hospitality**: Provides a range of tourism-related services, including package tours, hotel bookings, and pilgrimage services.

About IRCTC

Services Offered by IRCTC

- **Railway Ticket Booking**: Online ticket booking for over 7000 train routes in India.
- **Food on Track**: Ordering food on trains via the app and website.
- **Tourism Packages**: Customized holiday and pilgrimage packages, including transport, accommodation, and guided tours.
- **Tourist Trains**: IRCTC runs special tourist trains like the "Bharat Darshan" and "Vande Bharat" for cultural and religious tours.

About IRCTC

IRCTC App and Website

- **Mobile Application**: A user-friendly app available on Android and iOS for seamless ticket booking, meal orders, and other services.
- **Website**: www.irctc.co.in - The official website offering all the services available on the app, plus additional features like booking for special trains and premium services.
- **Features**: Easy navigation, secure payment options, train schedules, seat availability, and more.

About IRCTC

IRCTC's Impact on Indian Railways and Travel

- **Convenience**: IRCTC has revolutionized the way Indians travel by train, with millions of online bookings every day.
- **Customer-Centric**: With features like Tatkal booking, meal delivery, and flexible cancellation, IRCTC focuses on enhancing the traveler's experience.
- **Digital Transformation**: Spearheading the digitalization of the Indian railway system, making travel bookings accessible to millions via smartphones and computers.
- **Economic Contribution**: Generates significant revenue for Indian Railways while providing employment opportunities across various sectors.

General Information about IRCTC

1. User journey mapping
2. Performance Analysis
3. User feedback and challenges
4. Real time notifications
5. Payment and refund issues

1. User Journey Mapping

- **Discovery**: Access via website/app for bookings and tourism.
- **Registration**: New users complete verification and details.
- **Ticket Booking**: Train selection, seat preferences, and passenger info.
- **Payment**: Multiple payment options available.
- **Post-booking**: Check status, request refunds, support.
- **Additional Services**: Meal ordering, tourism packages, and bus/air bookings.

2. Performance Analysis

- **Booking Speed**: Challenges during peak demand.
- **Downtime**: Occasional issues during high traffic.
- **Page Load Time**: Impacts user experience, especially mobile.
- **Scalability**: IRCTC works on server scaling and algorithm optimization.

3. User Feedback and Challenges

- **Booking Failures**: Common during peak hours.
- **Refund Delays**: Slow refund processing is a challenge.
- **Complex Registration**: Lengthy, can discourage new users.
- **Support Delays**: Hard to reach during emergencies.
- **Technical Issues**: App crashes and slow responses reported.

4. Real-time Notifications

- **Booking & Ticket Updates**: Status and confirmations.
- **Schedule Changes**: Updates on delays and cancellations.
- **PNR Status Alerts**: Track changes in real time.
- **Service Alerts**: Maintenance and policy notifications.
- **Payment & Refund Notifications**: Alerts for refunds and issues.

5. Payment and Refund Issues

- **Payment Failures**: Common at peak hours.
- **Refund Delays**: Users report delays post-cancellation.
- **Limited Payment Options**: Occasional issues with specific methods like UPI.

Research Questions/Observations

1. **Demographic Influence on User Experience**
2. **Social Context and Technology Access**
3. **User Behavior and Cultural Sensitivity**
4. **Impact of Festivals and Holidays on Usage**

1. Demographic Influence on User Experience

Q-1: How do users of different age groups (e.g., 18-25, 26-40, 41-60, 60+) experience and interact with the IRCTC app? Does age impact their ability to navigate through the booking process?

- **Younger users** (18-25 and 26-40) are typically **quick and comfortable** with the app, utilizing digital payments.
- **Middle-aged users** (41-60) appreciate efficiency but may prefer less changes in features over time.
- **Older adults** (60+) often **struggle with navigation and prefer simpler layouts** with fewer steps and larger, clearer icons and text.

Q-2: How do users from rural and urban areas differ in terms of their interaction with the IRCTC app? Are there notable differences in the ease of use or preferred features between these groups?

Feature/Factor	Urban Users	Rural Users
Internet Connectivity	High-speed and stable	Often limited or slow
Device Quality	Higher-end smartphones	Basic smartphones
Tech-Savviness	High	Moderate to low
Preferred Features	Real-time tracking, multiple payments	Offline features, local language support
UI Preference	Complex, with advanced options	Simplified, with guided steps
Payment Preferences	Digital payments, e-wallets	Cash on delivery or simpler methods
Common Challenges	Captcha and timeouts	Navigation, slow loading, language barriers

Q-3: Does education level influence the ease with which users can complete tasks such as train ticket booking, payment, and PNR status checking on the IRCTC app?

Task/Feature	Higher Education	Moderate Education	Lower Education
Ease of Booking	High	Moderate	Low
Payment Process	Confident with digital payments	May hesitate with advanced payment methods	Prefers simpler or offline methods
PNR Status Checking	Quick & easy	Understands basics	May need guidance
Navigation	Efficient	Basic familiarity	Likely to struggle without guidance
Expectation	High standards	Moderate standards	Simplicity & support needed
Common Challenges	Captchas, re-logins	Unfamiliar terminology	Complex steps, terminology, security checks

2. Social Context and Technology Access

Q-1: How do users' social contexts, such as access to high-speed internet and familiarity with technology, impact their ability to successfully book tickets and use advanced features like Tatkal booking on the IRCTC app?

Social Context	Impact on IRCTC App Interaction and Features Usage
High-Speed Internet	Faster transactions, efficient Tatkal booking, quick feature loading
Low-Speed Internet	Slow loading, app timeouts, failed transactions during Tatkal bookings
High Digital Literacy	Comfortable with navigation, easy use of advanced features
Low Digital Literacy	Struggles with complex workflows, likely to avoid advanced options
High Familiarity with Apps	Uses full app features confidently, efficiently handles multiple steps
Low Familiarity with Apps	Prefers basic booking methods, may need assistance for app usage

Q-2: What role does digital literacy play in determining the success or failure of booking tickets via the IRCTC app?

Digital Literacy Level	Impact on Booking Success	Challenges Faced
High Digital Literacy	Confident navigation, quick task completion, ease with digital payments	Minimal challenges, able to handle errors or issues
Moderate Digital Literacy	Basic navigation, some confidence with payments, slower in complex tasks	Occasional difficulty with advanced features and time-sensitive tasks
Low Digital Literacy	Difficulty navigating, high chance of errors in booking and payments	Errors with navigation, payment failures, app abandonment due to frustration

3. User Behavior and Cultural Sensitivity

Q-1: How do users from different religious or cultural communities plan their train journeys? Do certain groups experience specific usability issues due to the app's design, such as finding special tourism or pilgrimage packages?

User Requirement	Potential Usability Issue	Suggested UX Solution
Pilgrimage Package Accessibility	Difficulty locating or identifying packages	Create a prominent "Pilgrimage & Heritage" section
Language Preferences	Lack of regional language options for descriptions	Add multilingual support for tourism packages
Food & Dietary Information	Unclear or absent details about meal options	Include meal details (vegetarian/halal) in bookings
Women and Elder-Specific Options	Lack of visibility of compartments or assistance	Clearly mark relevant options for elder-friendly bookings or women-only compartments
High Demand During Festivals	Unexpected booking unavailability due to events	Offer notifications or seasonal packages for festival times

Q-2: Does the IRCTC app account for cultural sensitivities, such as catering to different dietary preferences (vegetarian, non-vegetarian, Jain food) during meal bookings? How does this influence the user experience?

Aspect	Current Situation	Suggested Improvement
Dietary Option Visibility	Limited clarity on Jain and other options	Add clear filters and labels for all options
Meal Preparation Assurance	Minimal details on preparation methods	Provide specific details on cultural prep
Regional Food Preferences	Standard meal offerings	Offer region-specific or culturally preferred foods
User Confidence	Limited assurance for strict dietary needs	Include brief descriptions of dietary adherence

4. Impacts of Festivals and Holidays on Usage

Q-1: How do cultural and religious holidays impact peak usage periods on the IRCTC app? Do users experience increased app failures or delays during these times?

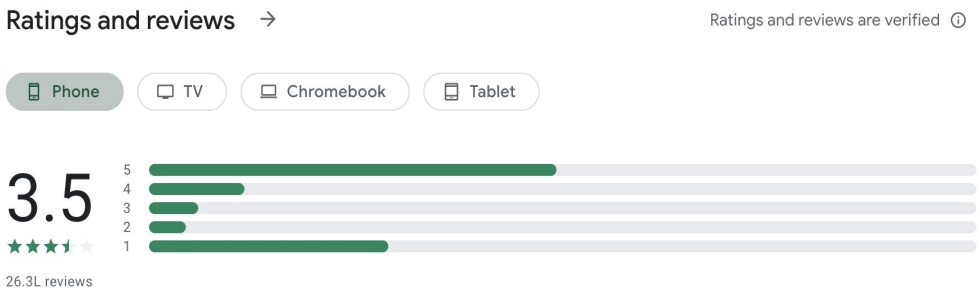
Holiday Type	Peak Usage Impact	Common Issues Experienced	Description
Major Cultural Holidays	Significant increase in app usage	App delays, slow loading times	During holidays like Diwali and Holi, families plan travel, leading to high demand for booking.
Religious Pilgrimage Periods	High peak usage, often localized	Higher failure rates, server crashes	Kumbh Mela, Char Dham, and Amarnath Yatra attract a spike in bookings for specific regions.
Long Weekends and National Holidays	Noticeable surge in usage	App latency, occasional login issues	National holidays and long weekends see increased bookings as users plan short vacations.

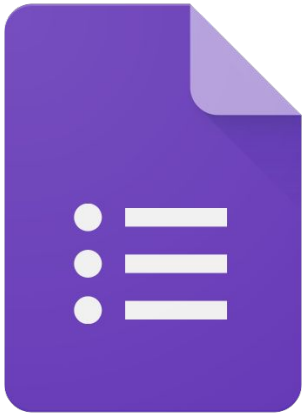
Q-2: How does seasonal travel behavior, such as during festivals, summer vacations, or pilgrimages, impact the performance and usability of the app? Are specific cultural groups more likely to experience booking challenges during these times?

Seasonal Travel Period	Impact on App Performance	Common Usability Issues	Cultural Groups Most Affected
Festivals (e.g., Diwali, Eid, Christmas)	High server load due to increased demand; app slowdowns and crashes	Slow response times, payment delays, app crashes	Primarily Hindus (Diwali), Muslims (Eid), and Christians (Christmas); high demand across all groups due to general holiday travel
Summer Vacations	Sustained high usage over weeks; heavy load on reservation systems	Delays in ticket booking, availability issues, longer processing times	Families with children, travelers to tourist destinations across various regions
Pilgrimages (e.g., Kumbh Mela, Amarnath Yatra)	Surge in specific routes; regional server overload	Limited ticket availability, slower processing, app timeouts	Devotees attending religious pilgrimages, predominantly Hindu and Sikh travelers for specific events

Feedback
Feedback Sources

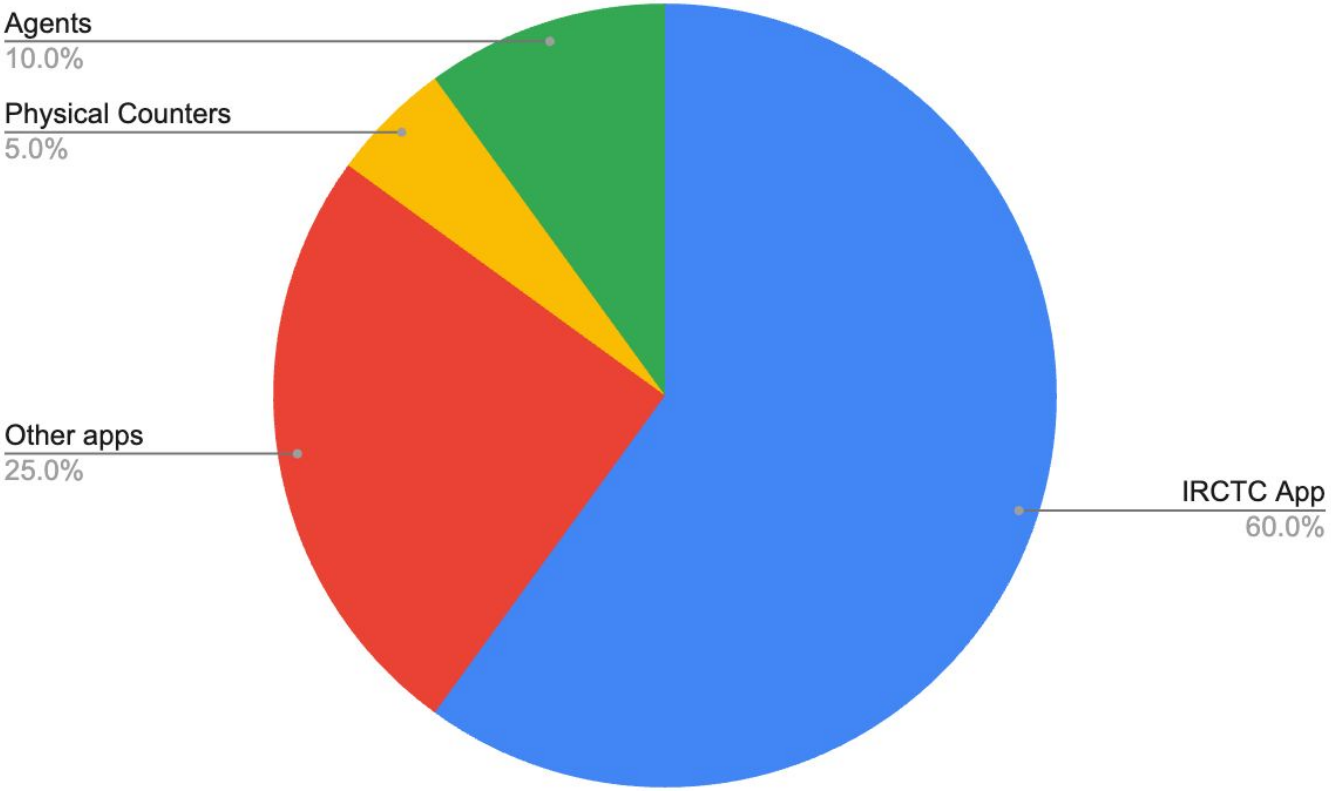
- Google Form Survey
- Play Store and App Store Reviews
- In person Review





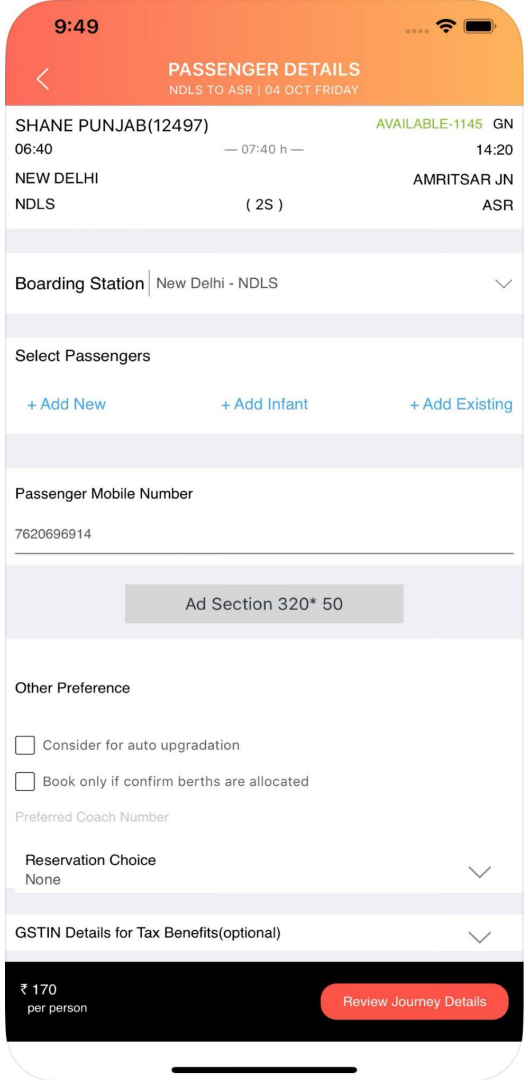
Feedback

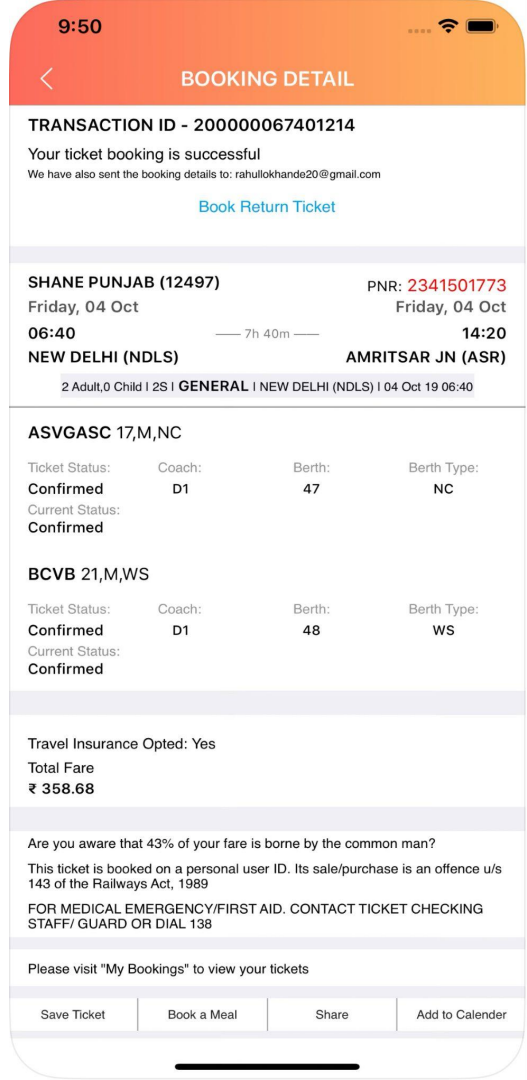
What do you use for booking train tickets?



Feedback
Positive Feedback

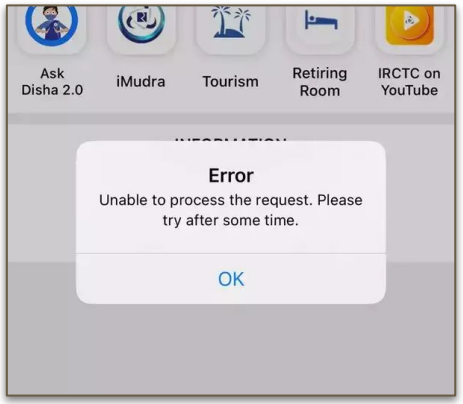
- Direct Booking from IRCTC
- Fast Booking Process
- Variety of Options with Details
- Global Accessibility
- Real-Time Updates (PNR, Tatkal)

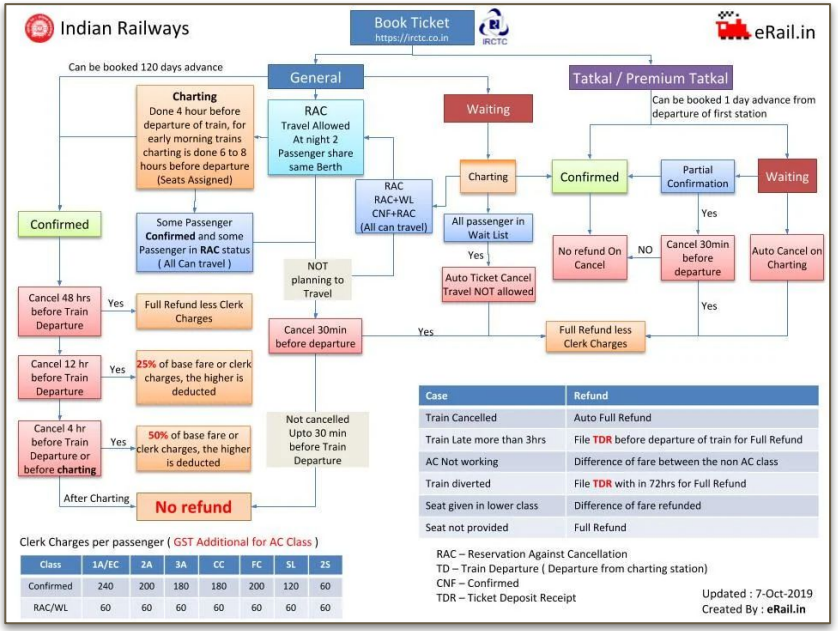




Feedback
Negative Feedback

- Outdated interface and confusing navigation
- Lagging and crashing issues
- Tatkal booking with fewer seats
- Frequent glitches and maintenance problems
- No fare breakup shown during booking
- Complex refund policies and waiting list issues





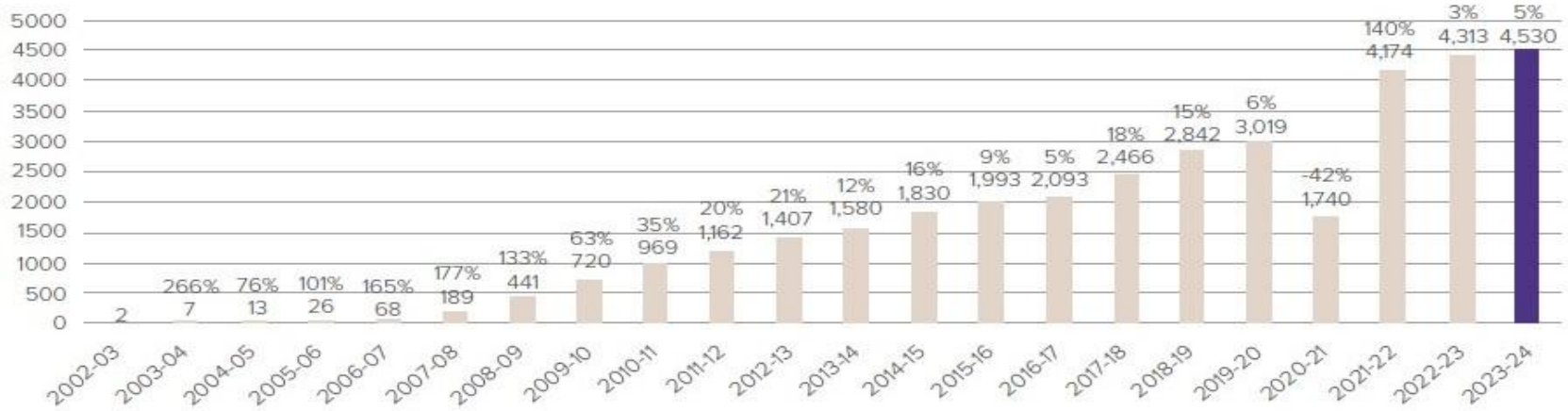
Data Analysis (Source: IRCTC official reports)

- Yearwise E-Tickets
- Mobile Application E-Booking
- I-Payment Aggregator
- Internet Booking
- E-Ticket fare Collection

Yearwise E-Ticket

- **Booking Capacity**: Increased from 2,000 to 7,200 tickets per minute, with a peak capacity of over 28,000 tickets per minute.

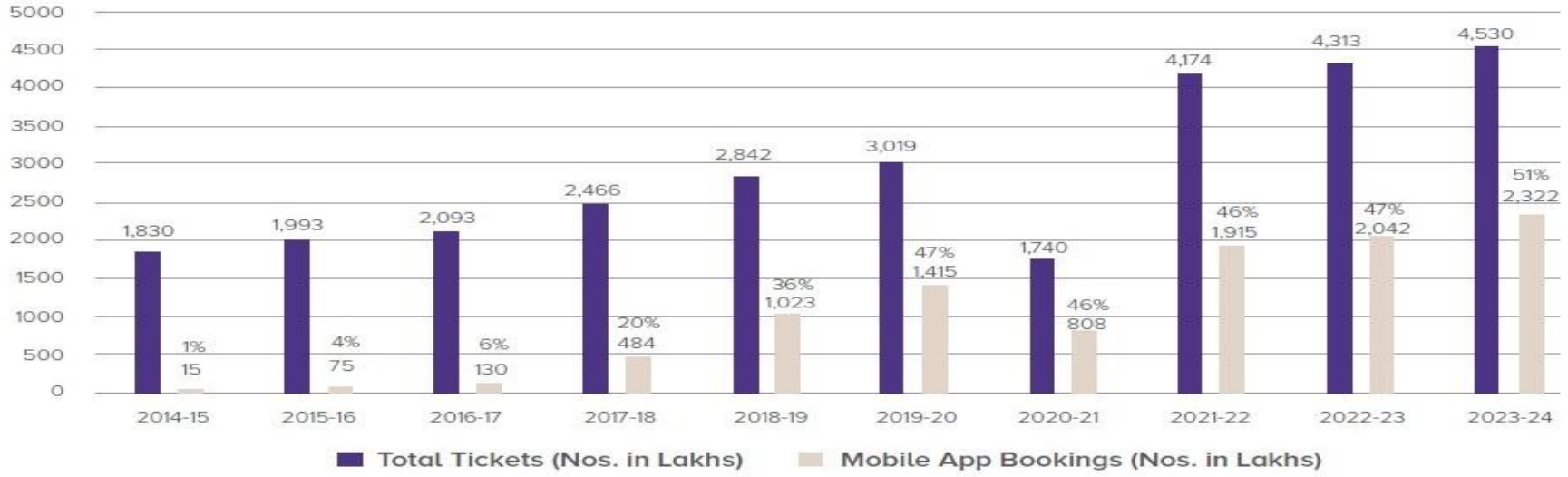
  The graph below shows the E-Tickets booked yearly(in Lakhs):



Mobile Application E-Booking

- **Average bookings per day:** 6.35 Lakhs
- **Total tickets booked via Mobile App:** 2322 Lakh (vs. 2042 Lakh in FY 2022-23)
- **Total Mobile App downloads:** 12.20 Crore
- **Daily Mobile Logins:** 51.77 Lakhs

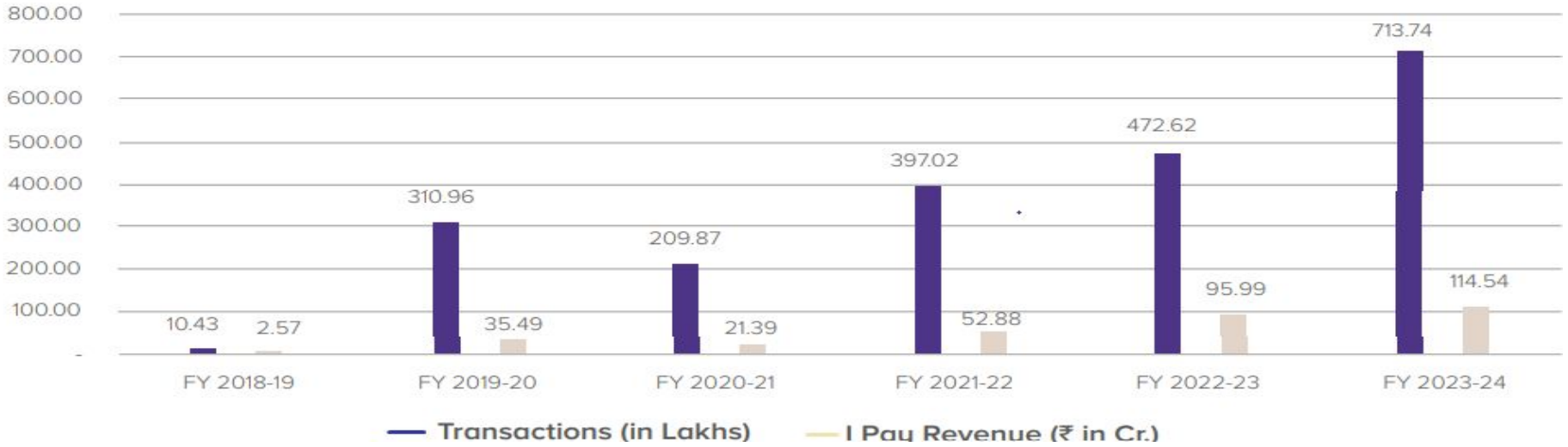
The graph below shows the Mobile Application E-booking yearly:



I-Payment Aggregator

- **Payment Modes Supported:** Internet Banking, Debit/Credit Cards, Wallets, UPI, Autopay
- **Revenue in FY 2023-24:** ₹114.54 Crores
- **Revenue Growth:** 19.33% compared to ₹95.99 Crores in FY 2022-23

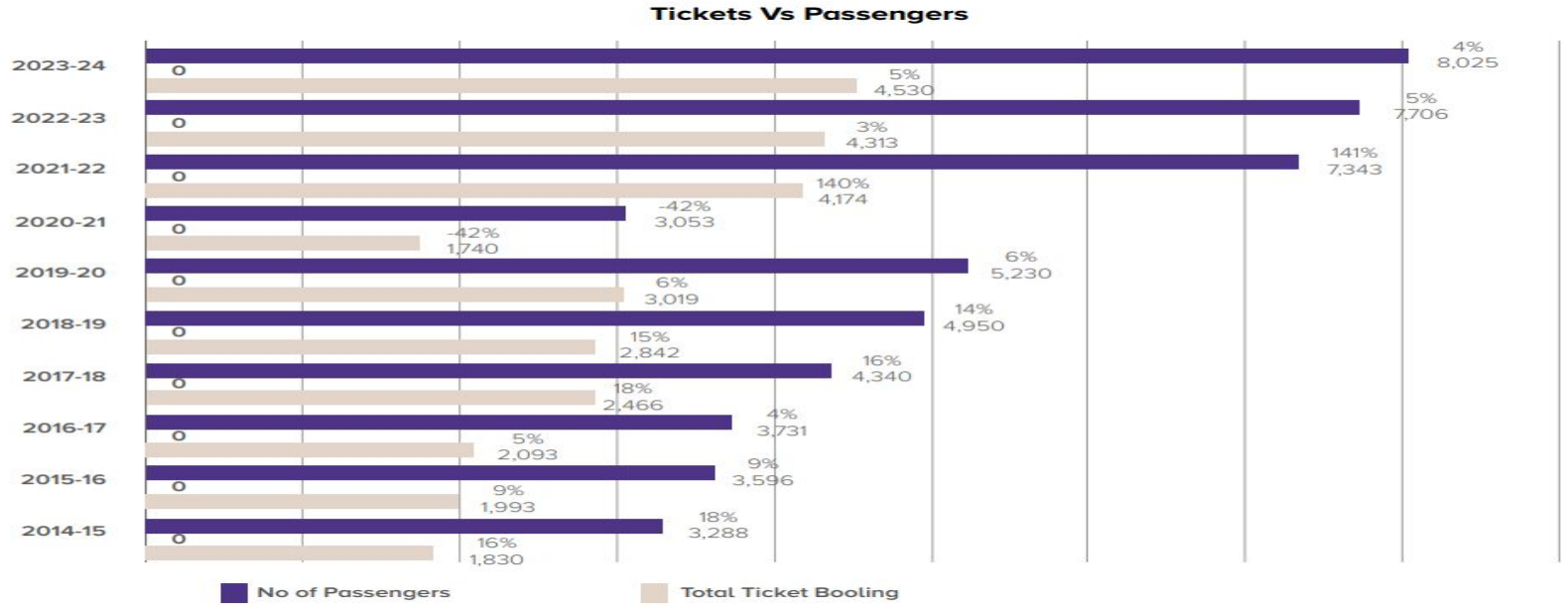
The graph below shows the I-Pay revenue report:



Internet Booking

E-Tickets and Passengers Booked (FY 2023-24):

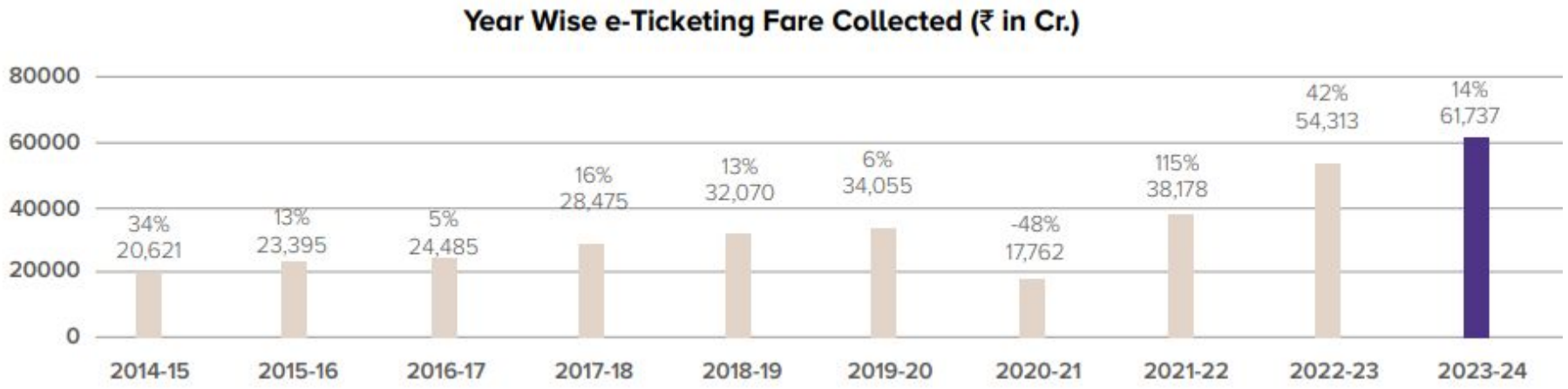
- **Total tickets booked:** 4529.83 Lakh (vs. 4313 Lakh in FY 2022-23)
- **Total passengers booked:** 8025.06 Lakh (vs. 7706.40 Lakh in FY 2022-23)
- The ratio of Passenger to Ticket during the year was **1.77:1.**



E-Ticket fare Collection

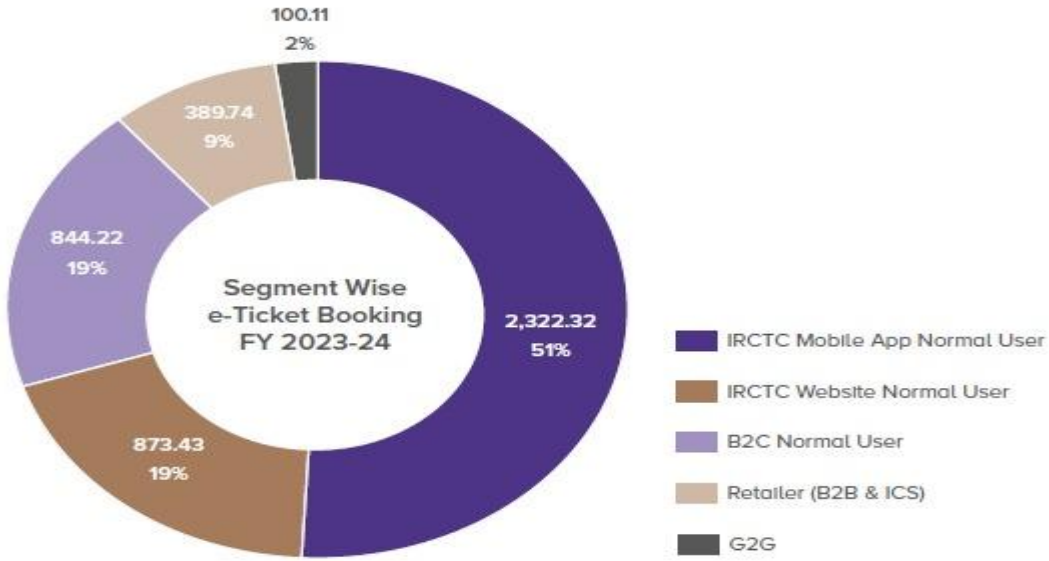
E-Ticketing Revenue (FY 2023-24):

- **Total Ticket Fare Collected:** ₹61,736.71 Crores
- **Year-on-Year Growth:** 13.67% increase from ₹54,313.46 Crores in FY 2022-23



Overall online Bookings

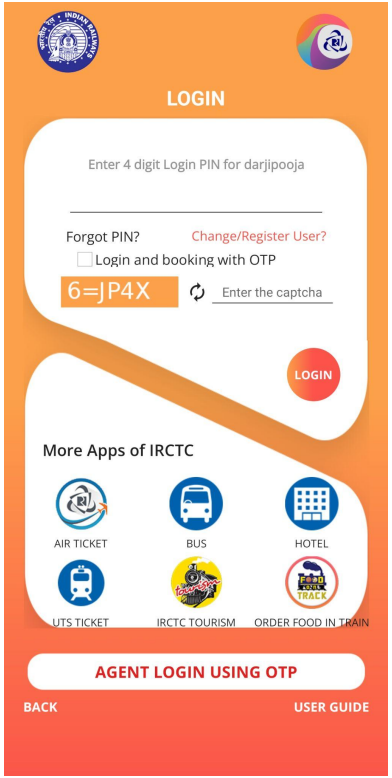
e. **Segment-wise Online Ticket Booking Share 2023-24**



USER CHALLENGES

❖ Repeated Login

- unexpected logouts frequently
- Interruption During Booking
- force to re-enter captcha multiple times
- Captcha Entry Frustration



USER CHALLENGES

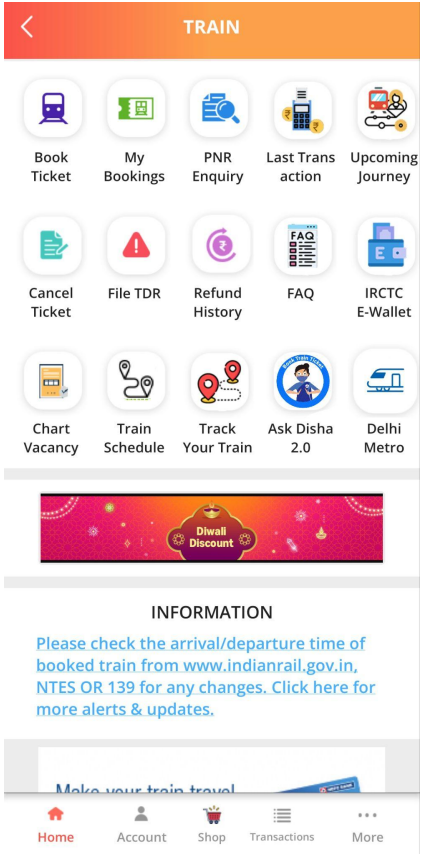
❖ Lack of Round Trip Booking Option

- No Round Trip Feature
- Increased Effort
- Potential for Errors

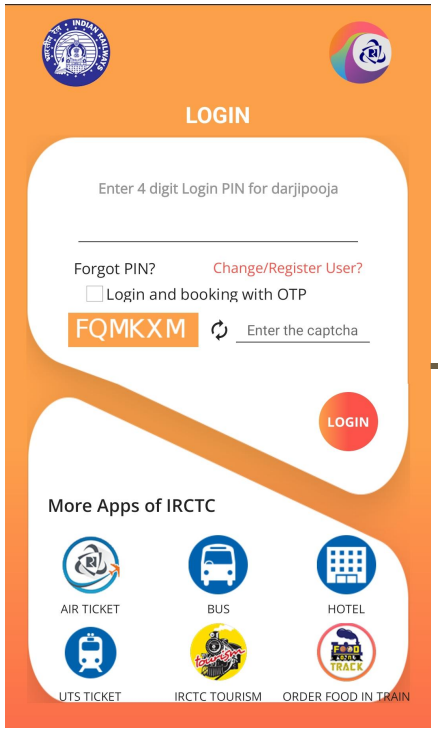
USER CHALLENGES

❖ Cluttered Landing Page Design

- No Clear Visual Hierarchy
- Unclear Ad Placement
- Overcrowded Bottom Bar
- Outdated User Interface

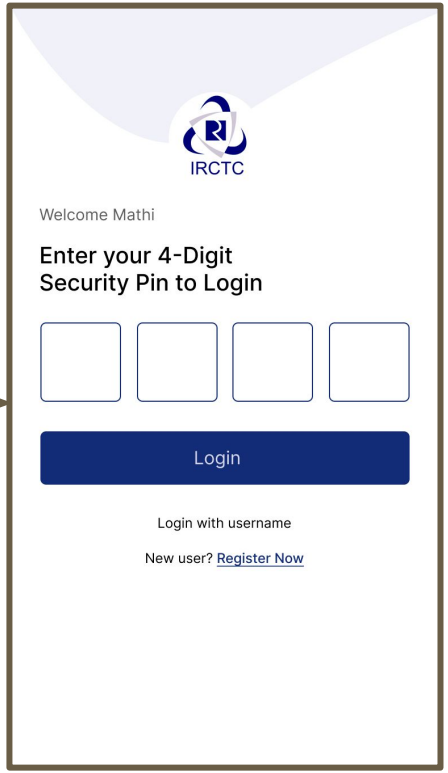


Improvements



No captcha

user-friendly

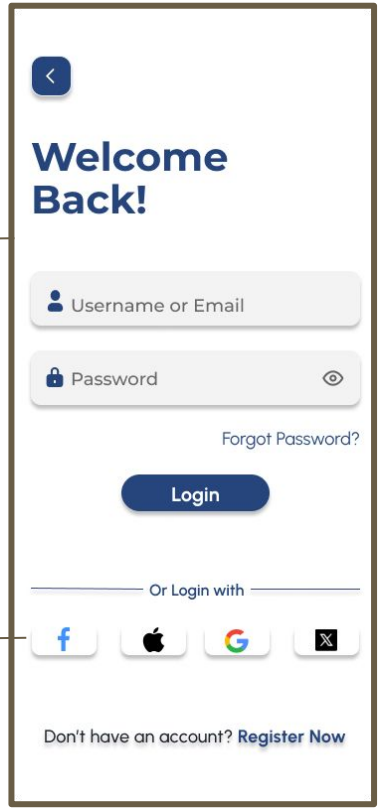


[Existing authentication page]

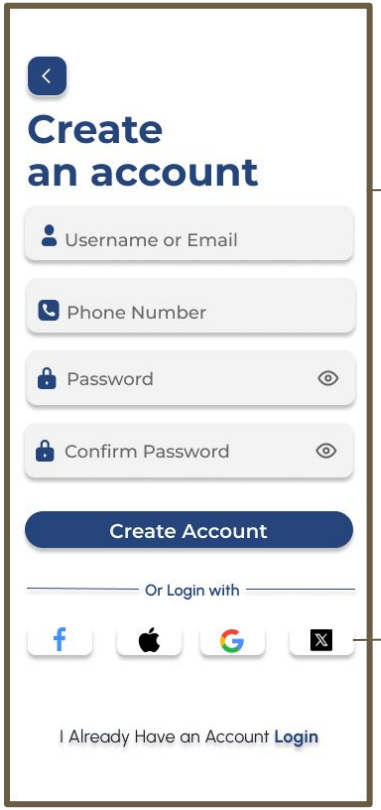
[Redesigned]

Improvements

User Friendly



New - Login with google, facebook...

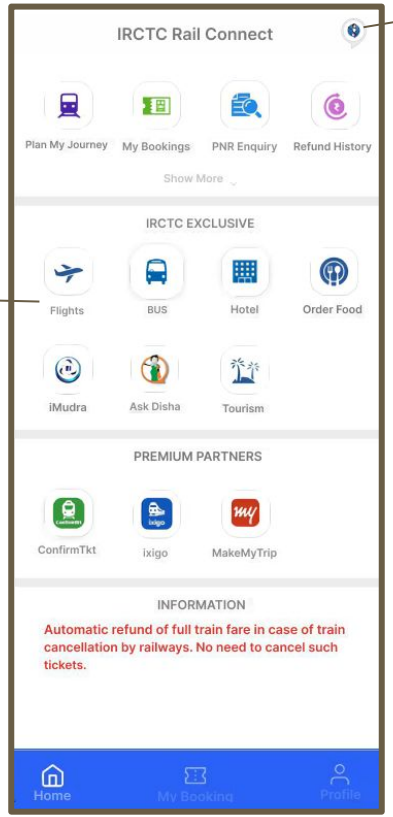


User Friendly

New - Signup with google, facebook...

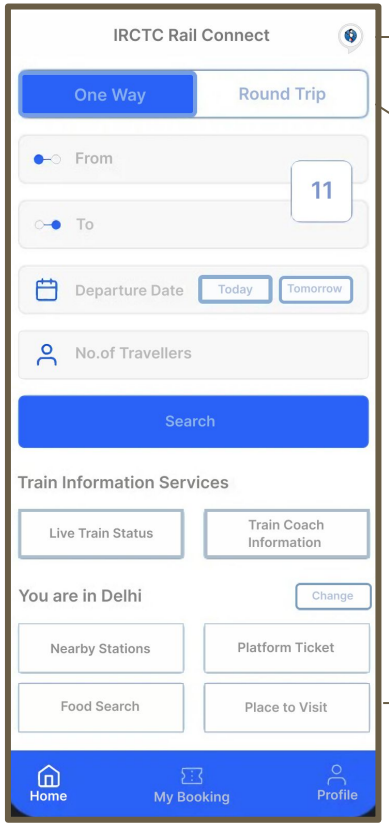
Improvements

User Friendly Landing Page



[Redesigned Dashboard]

AI chat Support



[Redesigned booking page]

AI chat Support

New Round trip selection

New features

Functional Improvements

- ❏ AI-powered chatbot
- ❏ Personalized Travel Recommendations
- ❏ Voice-Activated Search and Booking
- ❏ Integrated Travel Planning
- ❏ Seamless Multi-Language Support

Thank you

Any question?