**PRODUCT REQUIREMENTS Documents**

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| Product Title | TouristRide Mobile App |
| Author | Ibrahim Dar |
| Product Description | e-Bike rental application. |

**Contents**

|  |  |
| --- | --- |
| Product Overview & Objectives |  |
| Stakeholder & Responsibility |  |
| DACI Framework |  |
| Functional Requirements |  |
| Technical Requirements |  |
| Non-technical Requirements |  |
| User Personas |  |
| Growth & Success Metrics |  |
| Engagement Metrics |  |
| Pre launch plan |  |
| Launch Plan |  |
| Post Launch plan |  |
| Approval, Sign-off & Version History |  |

**Product Overview**

TouristRide is a mobile application that allows users to rent & book e-bikes for traveling within cities without the requirement of a license. It is aimed at tourists as well as local people to travel from one part of the city to another by providing a seamless booking and renting experience coupled with payment management systems as well as safety and support features to enhance customer experience at affordable prices. It is multilingual and can be used by anyone anywhere in the world to rent a bike and travel as per his/her convenience. The product possesses live GPS tracking and navigation systems to help users travel and provide suggestions along the way about famous/popular spots to enhance the overall experience and maximize value.

**Objectives**

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| Provide easy to access transportation | Bikes should be easily accessible for anyone within the city. GPS system will give live location of the bike to the user and provide navigation options to reach to the bike. |
| Price Transparency | Prices will be shown upfront to the user based on the type of bike he selects, the distance travelled and time. |
| Bike Lock & Unlock through app | Bikes can be locked/unlocked through QR code scanner integrated with IoT so that users can safely and securely use/drop off the bike. |
| On-Ride safety & security | Safety checklist wil be used along with live customer support and on-ride SOS button in order to ensure customer safety and security during rides. |
| Payment management system | Users will be able to top-up the app wallet, add debit/credit cards, add UPI and other payment methods as well which will allow users to make payments online. User will also be able to see payment history and download invoices. |
| On-ride suggestions and interactions | App will have a database of famous/popular tourist places and they will appear on user ride screen as he navigates to his destination. The suggestions will be based on distance, popularity, taste preferences etc. |
| KYC and documentation | Users will be able to upload their documents through the app and do KYC online. Once the KYC is done, user profile will be verified and he can rent bikes over time (days or weeks). |
| Rating and Feedback | Users will be able to rate the quality of the bike they used, rate their individual rides and also provide feedback on their experiences with the app. |
| Languages | App will be multi-lingual so that users can select their preferred language and use the app. |

**STAKEHOLDER IDENTIFICATION**

|  |  |  |
| --- | --- | --- |
| Name | Role | Responsibility |
| Product Manager |  |  |
| Business Analyst |  |  |
| Business Owner (Operations) |  |  |
| UI/UX designer |  |  |
| Software Developer |  |  |
| Marketing & Sales |  |  |

**DACI Framework**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ownership | Gather/Identify Requiurements | Design App screen | Code & Host | Marketing Campaign | App Prototype | Push to production |
| Product Manager | **A** | **A** | **A** | **A** | **A** | **A** |
| Business Analyst | **D** | **C** | **I** | **I** | **D** | **I** |
| Business Owner | **C** | **C** | **I** | **C** | **I** | **I** |
| UI/UX Designer | **C** | **D** | **I** | **I** | **C** | **I** |
| Software Developer | **C** | **C** | **D** | **I** | **C** | **D** |
| Marketing & Sales | **I** | **I** | **I** | **D** | **I** | **I** |

**FUNCTIONAL REQUIREMENTS**

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| --- | --- |
| User Profile & KYC | Full Name, e-mail, Government ID, Phone number, Profile picture, Two factor Authentication & a KYC verification System will be used to create a profile for the user. |
| GPS (Live tracking, Navigation, location sharing) | Product will provide location services such as GPS tracking, allow users to share their live location through different platforms, and also provide recommendations on popular spots along his ride. |
| Live e-bike availability, pricing & Filtering. | Bike should be easily discoverable through the app and provide real time location of the bikes on the map. It should also show the photos of the bike and its specifications along with battery levels (if e-bike). Prices also be visible against each bike. User should also be able to filter as per his/her requirements. Pricing structure should be clear and cost calculation should be upfront. |
| Remote bike lock/unlock | User should be able to lock/unlock the bike from the app only. Bike will be enabled with IoT and a OTP/QR code based verification system will be used to lock and unlock the bike. |
| Advanced Booking | Users will be able to book the bike for use in advance (24-48 hrs). Group booking feature can also be used up to a certain no. of bikes. Booking will also have a cancellation system and a clear refund policy. |
| On-Ride features | Users will have several options when they are on their ride. The ride screen will give the user suggested tourist spots, provide live location tracking of user and others (in case of group booking), Emergency SOS button, on-ride support & suggested drop-off spots near ride completion. |
| Safety & Support | App will give user safety guidelines/checklist before ride start. Users can call for emergency assistance and get real time support while on rides. |
| Payment Management | User can add money into the app wallet through credit/debit card. App will have capability to remember/let the user add credit/debit card information. Other payment options like UPI or international payment system can be added later on. Payment history should also be available to the user. |
| Invoicing & e-mail | User should be able to download invoice from the app/ receive invoice on verified e-mail. Verified e-mails will also get e-mails about promotions, offers and feedback forms as and when sent by the company. |
| Automatic Location Detection & Map integration | The app will automatically detect the location of the user once location is on and will be integrated with google maps APIs to get an in-depth & detailed view of the geography of the city/location. |
| User Authentication & OTP verification | User can create a profile without KYC to book a bike for a single ride. Once KYC is done, user profile will be verified and he can book bike for a longer time period and in advance. User will scan the qr code on the bike through app, get an OTP for verification (through mail or SMS) and once OTP is entered, bike will lock/unlock. |
| Send/ Receive SMS & Calls | App will be able to send SMS (OTP, Ride Start/End SMS, promotions, booking messages, refunds etc.) User will also be able to make calls to partner/ customer care from the app. |
| Usage History & Analytics | App will provide users with history about Rides, distance covered, bike & cost break-ups. When user is on-ride, app will also provide user with distance left & estimated time to reach location. |
| Bike reviews & Ride feedback. | User will be able to see bike reviews when selecting the bike as well as give a personal review of the bike he had booked. User will also be able to rate and give is feedback about the ride and overall experience. |
| Multiple language support | App will be available in multiple languages and can be switched in settings. It will initially use 5 most spoken languages including English. |

**Technical Requirements**

|  |  |
| --- | --- |
| Category | Details |
| Cloud Based backend Infrastructure | App will be cloud based with event driven architecture and get live updates from the server. Databases for user data, bookings and payments, bike availability & locations (real time data). Cloud infrastructure like AWS, Google cloud or Azure will be integrated for scalability. |
| Authentication & Security | Authentication for user, encryption of Payment data, Bike lock/unlock authentication etc. will be used to enhance safety & security of the environment. |
| Location Services | API integration with a map services company, real time GPS tracking implementation, geofencing/geotagging for bike boundaraies, location based search & filtering. |
| IoT integration | IoT enabled Bike battery & Lock systems to monitor bike health & battery. QR code enabled lock/unlock system. IoT device management system to remotely control bike. |
| Payment Integration | Payment gateway integration, UPI integration, In-app wallet top-up through payment gateway, Invoice generation and refund system. |
| Communication Systems | Push notification/email capability, SMS send and receive in-app calling capability. |
| Frontend development | Interactive UI, offline capability, Client side rendering, multiple languages. |

**Non-technical Requirements**

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| --- | --- |
| Category | Details |
| Legal & Compliance | * KYC documentation & verification. * Payment Gateway Compliance. * Data Protection Policies. * Terms of service & privacy policy. * Refund policy. |
| Busines | * Booking duration limits * Pricing structure * Booking & cancellation policies * User rating system * Offers & discounts |
| Operational Requirements | * Customer support system * Protocols for emergencies scenarios. * Bike maintenance & tracking * Vendor management * Staff training |
| Documentations | * Safety guidelines & checklist * App usage tutorial * FAQ documentation * Bike operation manuals * Emergency procedures |
| App Content | * Multi-language content * Marketing material * Notification templates * E-mail templates & support scripts. |

**User Personas**

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| --- | --- | --- | --- |
| Background | Behavior | Need | Impact |
| Persona 1: Regular commuter in an urban area who lives in the city, is tech savvy and environmentally conscious. Disposable income is low. | * Regular weekday commuter. * Has to go to and from the same location almost every day. * Sensitive about price. * Values convenience and easy travel more. | * Reliable daily transport * Availability of bike. * Easy booking process. * Navigation to destination | * Reduced transport cost. * Easy ride planning. * Convenient travel. |
| Persona 2: Tourist who has visited the city first time. May or may not know English, is capable of using mobile apps and is looking to explore the city. Disposable income is medium. | * Explores multiple locations in the city. * Uses google maps for navigation. * Prefers guide tours. * Often come in a group. | * Multi-language support. * Famous/popular spot suggestions. * Transparent pricing and multiple payment options. * Navigation to destination. | * Improved experience of city travel. * Less costs incurred than guided tours. * Faster and convenient travel. * Easy payment. |
| Persona 3: A working professional on a weekend looking to take some time off. Disposable income is high. | * Books bikes in advance for him and his friends. * Plans routes and attractions across city as per his taste. * Concerned about safety. | * Availability of multiple bikes. * Route suggestions with less traffic. * Advance booking capability. * Emergency support. | * Quality weekend time with friends. * New places to visit every weekend. |
| Persona 4: A university student, who lives on the campus, is tech savvy and has low disposable income. | * Bike availability as and when required. * Sensitive about price. * Often rides with friends. * Late night rides. | * Affordable pricing. * Discounts & promo codes. * Easy payment option. * 24/7 availability. * Safety. | * Increased travel. * Cost saving and convenience. * Social connectivity. |
| Persona 5: Business owner, who has to travel frequently for business purpose,send his workers across city, is time conscious and values efficiency. | * Books during business hours. * Needs reliable and guaranteed service. * Uses to send his workers to clients. * Requires receipts/invoices. | * Quick booking process and confirmation. * Automated invoicing. * Reliable availability. | * Less travel time between clients. * Improved customer service for his company. * Reduce taxi expenses. * CSR towards environment. |
| Persona 6: A health conscious person with a active lifestyle and medium disposable income. | * Goes to gym/cycling regularly. * Tracks her distance travelled. * Rides in early morning or evening. | * Performance tracking. * Route suggestions for cycling. * Reliable bike availability. | * Enhanced fitness routine. * Health goal achievement. |

**Growth & Success Metrics**

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| --- | --- | --- |
| Team | Growth | Success |
| Strategy | * **Market Capitalisation** * **Total User Base** * **Total Revenue** | * **Total Market share** * **Growth Rate** |
| Marketing | * **Total sign-ups** * **Total Downloads** | * **Reviews** * **Referrals** |
| Operations | * **Utilization** * **No. of rides per day** | * **Time spent on rides** * **No. of returning users** |
| Product/Digital Platform | * **Daily completed Rides** * **No. of profiles created** * **Total Bookings** * **App Store Ratings** | * **DAU & MAU** * **Total on-boarded users (KYC)** * **No. of Active users.** * **Users Retained.** |
| Customer Experience | * **Avg. Resolution Time** * **Avg. Response Time** * **Complaint wait time** * **No. of complaints resolved** | * **CSAT** * **Net Promoter Score** * **Total positive – Total negative reviews** |

**Engagement Metrics**

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| --- | --- | --- |
| Metric | KPI’s | Signal |
| User Acquisition | * User rigestration rate * KYC completion rate * Profile completion percentage * Rigestration to ride percentage | **Do customers want to try our product?** |
| Accessibility & Discoverability | * Bike discovery rate * Suggested spots click through rate * Bike lock/unlock success rate * After-ride parking rate | **How easy is it for our customers to avail our services?** |
| Booking & Ride | * Booking conversion rate * Average booking lead time * Advanced Booking percentage * Group booking percentage * Booking cancellation rate * Ride frequency per user * Average ride distance * Peak hour demand | **How many customers actually use our product?** |
| Payment & Wallet | * Wallet top-up rate * Average wallet balance * Preferred payment method * Transaction success rate * Refund rate | **How many customers become our daily,regular or periodic users?** |
| Safety & Support | * SoS button usage rate * Emergency support response time * Safety checklist view rate | **Do our customers feel safe?** |
| Feedback & Review | * Bike reviews by users * Feedback given | **Do the customers like our product?** |

**Pre launch plan**

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| --- | --- | --- | --- |
| Phase | Objective | Task | Timeline |
| Final testing & QA | Ensure product works correctly and meets all requirements as per UAT test document | 1. Conduct integration testing with backend. 2. UAT. 3. Conduct load and stress testing to see how product performs at high usage |  |
| Marketing & Communication | Create awareness and excitement about the product among users. | 1. Develop marketing materials, social media, blogs etc. 2. Plan and execute marketing campaigns targeting target market. 3. Co-ordinate with Corporate communication Team regularly. |  |
| System set-up and configuration | Ensure all technical systems are ready for product deployment | 1. Set up monitoring and logging tools to measure performance. 2. Server configuration to deploy product into production |  |
| Pilot testing | Limited release to end customers to gather real world feedback and make adjustments accordingly. | 1. Identify small groups of people for pilot testing. 2. Monitor usage and gather feedback. 3. Address any issues and bugs reported during this phase. |  |
| User training | Train CX team. | 1. Develop and distribute training material. 2. Conduct training sessions and workshops. 3. Provide hands on/on the job training for CX teams. |  |

**Launch Plan**

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| --- | --- | --- | --- |
| Phase | Objective | Task | Timeline |
| Go Live | Officially launch the product to the end users | 1. Make product available for customers through different online stores. 2. Announce launch through marketing and communication channels. 3. Monitor system performance during initial hours of the launch. 4. Ensure CX team is ready and on standby to address any technical issues. |  |
| User Support | Provide immediate support to users encountering issues with the product | 1. Set-up dedicated support teams for each issue category. 2. Provide FAQs and troubleshooting guides through communication channels. 3. Offer live support for real time issue resolution |  |
| Feedback collection | Gather user feedback to identify areas of improvement. | 1. Implement feedback management system. 2. Conduct user surveys and collect feedback. 3. Analyze feedback through feedback management system and prioritize necessary improvements. |  |

**Post Launch Plan**

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| --- | --- | --- | --- |
| Phase | Objective | Task | Timeline |
| Continuous Monitoring | Ensure product continues to perform well and address any issues | 1. Continously monitor system performance and interactions. 2. Track KPIs. 3. Address any technical issues or bugs promptly. |  |
| Regular updates and enhancements | Continuously improve the product based on market needs and user feedback. | 1. Plan regular updates and feature enhancements. 2. Prioritize updates based on business goals. 3. Test and deploy updates as per development process. |  |
| User engagement and retention | Maintain high user satisfaction and ensure engagement | 1. Keep users up-to date with new features and enhancements. 2. Conduct periodic user satisfaction surveys. |  |
| Performance audit and reviews | Evaluate actual performance against expected performance | 1. Conduct regular performance reviews, record and report findings. 2. Adjust strategies and plans based on performance data. 3. Celebrate success and identify areas of improvement. |  |

**Version Control**

Version control system will be used to keep a detailed record of versions of product software. It will keep details of the updates that have been made into the product, record changes, keep track of new features added. This protocol is used in order to ensure transparency and collaboration across different teams involved. The naming convention used will be **MAJOR, MINOR & PATCH.**

Any significant changes including new features, changes that can make product incompatible with some devices or changes to multiple UI pages will be categorized as major changes.

Any small improvements/changes in a feature, add/remove an option or small UI changes that can also be reversed will be categorized as minor changes.

Any bugs fixes in overall product or feature, performance improvements, security patches will be considered as minor changes.

**Numbering Convention:**

**Version 1.0.0:** This will represent the original product software.

**Version 1.1.0:** Whenever a new feature or functionality is introduced while compatibility with version 1.0.0 is maintained.

**Version 1.1.1:** Whenever a security patch to address a vulnerability or a bug is fixed in the original copy.

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| --- | --- | --- | --- | --- |
| Version | Release Date | Description | Ownership | Remarks |
| 1.0.0 | 12-12-2024 | Original MVP was released. | ABC | --- |
| 1.1.0 | 20-12-2024 | Multiple language functionality was implemented. | Development team, testing team | App compatible with 5 languages, 3 more will be added as per usage data. |
| 1.1.1 | 21-12-2024 | Security patch to secure vulnerability during KYC. | IT team, Development team & testing team. | -- |
| 1.1.2 | 02-01-2025 | Log in/Sign-up options made available on the same page instead of two separate pages. | UI/UX team, product team, Development team & Testing team. | It was done to check if this change will increase the count of total sign-ups. |