# Bike-o – Transforming Urban Mobility with a Mobile App and Cashless Payments

# Background to the Case Study

Problem description This Case Study is centred around a fictional Bike Sharing Business Model for the company Bike-o developed specifically for the SoftUni IT Business Analysis course. Although all the requirements and specifications are fictitious, efforts have been made to make them as realistic as possible.

Your objective in reviewing this document and preparing a Business Requirements Document (BRD) at the end of the course as part of your assessment. Imagine that it will be reviewed by Bike-o’s executive representatives and technical specialists. It's important to keep in mind that there are multiple ways to meet the client's requirements, and your proposal should include strong business and technical justifications for each decision made.

**Please remember, as IT Business Analyst, you never have all the information in one place. Therefore, there will be final Q&A session in the last lecture which will be sort of an interview with the client.**

## Introduction to Bike-o

In today's fast-paced urban environments, traffic congestion, air pollution, and limited parking spaces have become recurring challenges that demand innovative solutions. Amidst this landscape of urban complexities, Bike-o has emerged as a beacon of sustainable urban mobility. As a well-established bike-sharing company, Bike-o has been a prominent and forward-thinking player in the realm of urban transportation for several years.



Bike-o

Founded in 2019, Bike-o's inception marked a pivotal moment in the quest for more efficient, eco-friendly, and convenient modes of city travel. With a vision to transform the way people navigate urban landscapes, our journey began with a commitment to addressing the pressing issues that plague modern cities. From the very start, Bike-o has been driven by the belief that cycling not only provides a viable alternative to traditional modes of transportation but also contributes to a cleaner, healthier, and more vibrant urban ecosystem.

Since our foundation, Bike-o has experienced a remarkable evolution, expanding its operations to encompass 4 cities in Bulgaria and counting. This growth has been made possible through the dedication of our 110 employees, each contributing their unique expertise to different departments within the company.

At Bike-o, we are not merely a bike-sharing company; we are champions of change, advocates for a more sustainable future, and catalysts for a smoother urban experience. As we reflect on our journey thus far, we remain steadfast in our commitment to reshaping urban mobility, mitigating the challenges posed by congestion and pollution, and providing a reliable, accessible, and enjoyable way for people to traverse the cities they call home. Our story is one of growth, innovation, and dedication, and it continues to unfold as we look ahead to the horizons of progress that lie before us.

1. **Current Business Model**

The existing business model of Bike-o relied on traditional docking stations and cash payments. Designed to provide efficient urban mobility solutions, this model ensures that users can access reliable bikes while effortlessly navigating city streets. Here's an in-depth look at the step-by-step process and key components of our current business model:

1. **The Challenge**

While it served its purpose, it had its limitations. Customers often faced inconveniences such as searching for available docking stations and carrying cash for payment. Furthermore, significant share of the customers are tourists who don’t know their way around the city, so they have a hard time choosing correct routes while considering where to drop off the bike. Moreover, the fixed stations restricted the service's flexibility, preventing it from catering to a wider range of customers. Another challenge would be stolen bikes or bikes left outside the docking stations.

* **Inflexibility:** Fixed docking stations restricted the availability of bikes to specific locations, limiting users' choices and convenience.
* **User Friction:** Cash transactions created barriers for users, necessitating them to carry physical money and making the process less user-friendly.
* **Competitive Landscape:** Evolving customer preferences and the emergence of new transportation options necessitated a forward-looking approach to stay competitive.

1. **Proposed Solution**

Bike-o's strategic shift involves the integration of a mobile app and cashless payments.

**1. Mobile App:** The introduction of a feature-rich mobile app will empower users to effortlessly locate nearby bikes, unlock them electronically, and initiate journeys seamlessly.

**2. Cashless Payments:** By adopting cashless transactions, Bike-o will eliminate the need for users to handle physical currency, ensuring a frictionless experience and streamlining payment processes.

**The Benefits**

Bike-o's strategic overhaul could bring forth a range of benefits:

* **User-Centric Experience:** The mobile app, with its real-time bike tracking and effortless payments, will redefine convenience for urban mobility.
* **Market Expansion:** The removal of stationary docking stations enables Bike-o to tap into new markets and cater to users across diverse locations.
* **Environmental Impact:** By embracing cashless transactions, Bike-o will make strides toward a more sustainable urban landscape, reducing the carbon footprint associated with traditional payment methods.

**Letter from Bike-o’s CEO**

Dear Valued Stakeholders,

I am excited to share with you a significant milestone in the evolution of Bike-o - a transformation that underscores our commitment to innovation, customer-centricity, and a greener urban future. Over the years, Bike-o has established itself as a pioneer in the bike-sharing industry, and today, I am proud to announce a strategic shift that will redefine the way our customers experience urban mobility.

Our traditional business model, built upon stationary docking stations and cash payments, has served us well. However, as a forward-thinking organization, we recognize the need to embrace change and adapt to the evolving landscape of urban transportation. The challenges we faced, from the limitations of fixed stations to user friction stemming from cash transactions, prompted us to embark on a journey of transformation.

I am thrilled to introduce the culmination of this journey - Bike-o's new mobile app and cashless payments. These strategic initiatives have been meticulously designed to not only address the challenges we encountered but also to elevate the way our customers interact with our services.

**Mobile App:** Our cutting-edge mobile app empowers users with real-time bike tracking, effortless unlocking, and a seamless initiation of their journeys. This revolutionary tool redefines convenience, putting the power of urban mobility right at our users' fingertips.

**Cashless Payments:** In a bid to streamline transactions and enhance user experience, we have transitioned to cashless payments. No more hassle with physical currency - our users can now enjoy a frictionless and secure payment process.

These advancements not only enrich the user experience but also have a positive impact on our environment. By encouraging cashless transactions, we are contributing to a greener urban landscape, reducing our carbon footprint, and aligning our operations with sustainability goals.

In conclusion, I invite you all to explore the revamped Bike-o experience first-hand. Let's continue our journey together, pedal by pedal, towards a brighter and greener future.

Thank you for being an essential part of the Bike-o family.

Warm regards,

John Smithm

CEO, Bike-o

**Notes from Bike-o’s Top Management team discussion**

* ...very, very important is to have an interactive map feature within the mobile app that can locate nearby docking stations and slots available in each docking station...
* Must have feature to navigate and provide routes to reaching a set point to the user...if possible it could consider traffic
* ...why not consider having a functionality that can compare routes and reaching times...that’s a good idea!
* We definitely need to have authorization login page and accounts for users...
* The new Bike-o mobile app must provide options for online payments after the bike ride
* 100% sure we need tracking mechanism on the bikes to enable stopping the rent without docking station...yes, we do need to set limitation on parameter of locations and neighborhoods that the bike can be left
* ...it would be great if we enable live chat with Customer Service agent through the app and not only having phone calls...
* The pedals will lock once the rent is over...
* ...it is mandatory for the bikes to have QR codes that can be scanned by the mobile app...the mobile app must provide option to activate or cancel the rent once scanned
* we might have the app with blue theme colors to align with our logo
* we might drop the cash payment on the docking stations and add POS terminals there...
* It would be nice to have additional gamification part but not that important at this time...we can consider it in the future or ask customers...

**Notes from Bike-o’s Technical team discussion**

* **Platform Compatibility:** Ensure the mobile app is compatible with both iOS and Android platforms, maintaining consistent functionality and user experience across devices.
* **GPS Integration:** Implement GPS tracking to accurately display the user's location, available bikes, and nearby docking stations on the map.
* **Secure User Authentication:** Develop a robust authentication system, including biometric authentication options, to ensure secure user logins and prevent unauthorized access.
* **Real-time Data Synchronization:** Establish a seamless data synchronization mechanism to update bike availability, ride status, and payment transactions in real time.
* **Payment Gateway Integration:** Integrate a secure and user-friendly payment gateway that supports various payment methods, including credit cards, mobile wallets (e.g., Apple Pay), and digital payment platforms.
* **QR Code Generation:** Implement QR code generation and scanning functionality for users to unlock bikes, linking the code to individual bike IDs for accurate tracking.
* **Push Notifications:** Develop push notification capabilities to alert users about bike availability, promotions, maintenance updates, and important announcements.
* **Offline Mode:** Design an offline mode that allows users to view previously downloaded maps and access essential app features even when internet connectivity is limited. This is not that important but nice feature to have.
* **Performance Optimization:** Ensure the app's performance is optimized for smooth operation, quick loading times, and minimal battery consumption.
* **Analytics and Reporting:** Incorporate analytics tools to gather user behaviour data, ride patterns, and app performance metrics for informed decision-making and continuous improvement. This could be done or made with better quality in later stage.

**Online Reviews from users of Bike-o**

"I've been using Bike-o for my daily commute for over a year now, and it's been a game-changer. The convenience of the docking stations near my office and home makes it easy to grab a bike whenever I need it. While there's the occasional challenge of finding an available bike during peak hours, overall, the service has been reliable. The cash payment system is straightforward, though I'd love to see them introduce a mobile app for more seamless transactions. Bike-o has definitely improved my daily commute!" – Mark D.

"As a frequent traveller, I appreciate the flexibility that Bike-o provides. Locating docking stations in various parts of the city has made exploring new neighbourhoods a breeze. The bikes are well-maintained and comfortable to ride. I do wish they had a better solution for tracking bike availability in real-time, as there have been instances where I arrived at a docking station only to find all the bikes were taken. Despite that, Bike-o has been my go-to choice for city exploration." – Emily R.

"Bike-o has been my preferred mode of transportation for short trips around the city. I find the docking stations convenient, and the cash payment system is easy to use. However, my biggest concern is the issue of bike abandonment. I've noticed bikes left haphazardly around the city, making it frustrating when I can't find an available bike at a docking station. It would be great if Bike-o could implement stronger measures to ensure bikes are returned to proper locations. Overall, I appreciate their service and hope to see improvements in the future." – John S.

1. **Proposed Solution** **Expected Deliverables**

The max total points you can get is 100 and the expected deliverables for this project are as follows.

|  |  |
| --- | --- |
| **1. Content (relevant issues set out and the purpose of the analysis explained to an appropriate depth)** | |
| Project Details, Executive Summary and Project Overview   * Accurate description and details | 5 |
| Business Process Flow   * Correct BPMN diagram identifying the business processes before and after the changes with relevant entities correctly illustrated | 25 |
| Use Cases   * 3 Use Cases that cover the main Features and functionality * Correct Diagram with "Uses" and/or "Extends” relationships between Use Cases depicted in the correct manner * Corresponding textual descriptions that include all the main components | 25 |
| Requirements   * Correct format of the requirements description * Accurate prioritisation * Correct identification of requirements type * Corresponding Fit Criteria | 15 |
| User Stories and Acceptance Criteria   * 3 User Stories with Acceptance Criteria that cover the main Features and functionality * Acceptance Criteria corresponds to the User Story and covers scenarios * Correct Structure | 20 |
| **2. Structure (a** **clear and logical flow of language, easy to follow and each section relates to an overall purpose)** | |
|  | 10 |

**The project should be submitted by 15/10/2023 23:59.**