







PedalaMi Acceptance Test Plan

Version 2.0

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Revision History

Date	Version	Description	Author
2021-12-17	1.0	Initial Draft	Lorenzo Italiano,
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1. Introduction

1.1 Purpose of this document

The purpose of this document is to describe the testing process of the PedalaMi system. The goal is to verify that the system satisfies the requirements and the user stories presented in the Requirements Document.

1.2 Document organization

The document is organized as follows:

- Section 1, *Introduction*, describes the contents of this guide, used documentation during the developing process etc.
- Section 2, *Background*, briefly introduces the background of the PedalaMi project.
- Section 3, Acceptance Testing process, describes the overview of the testing process.
- Section 4, *Tests*, provides a series of test cases that will be performed during the acceptance testing process.

1.3 Intended Audience

- **Team members**, the development team should have full access to this document, which provides guidelines on how to test the system.
- **Supervisors**, the professors from POLIMI and MDH should have full access to this document, to evaluate and grade the progress of the development as well as to advise the team where it is needed.
- **Customer**, Deloitte Digital, to whom deliver the final product. They should have full access to this document, to verify if the system meets all the requirements.

1.4 Scope

This document addresses the acceptance tests. Guidelines are provided for each test on how to conduct tests and a test and quotation of an acceptance of it to determine either success or failure of the test. This document does not contain the results of the acceptance test as they will be described in the Acceptance test report.

1.5 Definitions and acronyms

1.5.1 Definitions

Keyword	Definitions	
User	Synonym for registered user	
User profile	A term indicating all the information linked to a user, such as	
	its username, its profile picture, its teams and its personal	
	statistics	
Navigation Bar	The bottom part of the application, it is used to move	
	between the main pages	
Nav Bar	Abbreviation of Navigation Bar	
Tab	A button at the Navigation Bar	

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Ride data	Term indicating the group of path, time, burned calories and average speed of a ride.	
Record a ride	Collect ride data	
Public event	Synonym for both <i>individual public events</i> and <i>team public</i>	
	events	
Private event	Synonym for team private events	
Badge	Special rewards that can be unlocked after completing specific tasks. They are visible in the user profile.	
Reward	The prize that the user can claim in exchange of earned points	
Individual public	The event proposed by the system admins that every user	
event	can join individually.	
Exclusive Event	An individual public event whose access is limited to users	
	who hold one or more specific badges, selected by the event	
	creator.	
Team private event	An event proposed by team admins, in which only two teams can participate.	
Team public event	An event created by system admins that could have been	
	proposed by team admins, in which an unlimited number of	
	teams can participate.	
Unit Testing	Type of software testing where individual units or	
	components are tested.	

1.5.2 Acronyms and abbreviations

Acronym or abbreviation	Definitions
NTR	Nothing to Report. There is no information on a specific topic
	available or necessary.
POLIMI	Politecnico di Milano
MDH	Mälardalen University
UI	User Interface
UX	User Experience
Арр	Mobile Application
Web App	Web Application
UAT	User Acceptance Testing

1.6 References

Requirements definition document:
 https://www.fer.unizg.hr/ download/repository/Requirements Definition Document%

 5B8%5D.pdf

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2. Background

PedalaMi is an application created for promoting the use of bikes as a green and sustainable alternative to the non-zero-emissions means of transport, which still represent the most preferred choice in the field.

The main idea on PedalaMi is based on nudge and gamification techniques: a user, riding a bike, can obtain badges and collect points to redeem rewards. Users can also join teams and participate in private or public events.

This objective is pursued by providing the users with an interactive system that encourages cycling thanks to a fun reward and challenge-based system, in order to enrich the standard riding experience to make it more appealing to casual bikers.

The customers of the project are Guido Perrucchini and Giuseppe Valerio Gramazio, who are employed by **Deloitte Digital** as developer consultants.

The project team consists of six people from POLIMI and four from MDH, with one supervisor from each university.

3. Overview of the Testing Process

The *User Acceptance Testing* (UAT) is performed by an end-user and the test cases described in this document are created to test the overall user interaction with both the application, using Android and IOS mobile devices, and the web application.

These tests are designed to cover all of the functional requirements of the application with a focus on the front-end.

The back-end is tested using the Unit Testing approach and it will not be addressed in this document.

The planning of the tests is made in accordance with the customer. In order to stick with his advice, a shared document where all the tests are present was created and it is checked by the customer. The customer adds three new columns: outcome, notes and test specifications; in this way, the results of the tests, and the specification used during those tests, are marked in each of them.

In the next meetings, the customer is going to make a UAT giving as coverage and feedback.

For this reason, in the first version of this document, the coverage of the tests will not be shown.

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3.1 Requirements

ID	Description		
R1	The application must have authentication, allowing users to login		
R2	The application must allow users to record bike rides		
R2.1	The app should allow users to see the rides made		
R3	The application must collect users' rides statistics and display them		
R4	The application must allow users to edit their username and their profile picture		
R5	The application must allow users to earn points from their rides		
R6	The application must assign badges to the users as a reward, based on their rides' statistics		
R7	The app should allow users to redeem rewards		
R8	The app should display information about the redeemed rewards		
R9	The application should allow users to create teams and become team admins		
R10	The application should allow users to search for teams and join them		
R11	The application should allow team admins to create private team events		
R12	The application should allow system admins to create individual public events		
R13	The application should allow system admins to create exclusive public events		
R14	The application should allow a Team admin to propose a public team event that has to be approved by a System Admin		
R15	The application should display to the user the available events and allow users to enrol for them		
R16	The application could allow team admins to invite other teams to join private events		
R17	The app should give extra points to the user if they bike in adverse weather		

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R18	The web app should display all the user's statistics
R19	The app could alert the user when the air quality is low

4. Tests

4.1 Registration and Login

Test Name	Registration	
ID	T1	
Requirements	R1	
Prerequisites	User has an active Google account, User installs and opens the app	
PASS / FAIL criteria	User joins with their Google account	
Procedure	 User installs the application User clicks on Google authentication button User enters a username User allows/declines access to location 	

Test Name	User Login	
ID	T2	
Requirements	R1	
Prerequisites	User has registered in the app	
PASS / FAIL criteria	User gets redirected to Map Tab	
Procedure	 User starts the application User clicks on Google authentication button User allows/declines access to location 	

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4.2 Navigation Bar

Test Name	Navigate to Profile Tab	
ID	T3	
Requirements	R3	
Prerequisites	User has logged in	
PASS/FAIL criteria definition	System shows information about Points, Rewards, Statistics, Earned Badges and Ride History	
Procedure	User opens the appUser clicks on Profile Tab on Navigation Bar	

Test Name	Navigate to Map Tab	
ID	T4	
Requirements	R2	
Prerequisites	User has logged in	
PASS/FAIL criteria definition	System shows user's location on map	
Procedure	User opens the appUser clicks on Map Tab on Navigation Bar	

Test Name	Navigate to Teams Tab	
ID	T5	
Requirements	R9	
Prerequisites	User has logged in	
PASS/FAIL criteria definition	System allows user to search for Teams and shows information about Joined Teams	
Procedure	- User opens the app - User clicks on Teams Tab on Navigation Bar -	

Test Name	Navigate to Rewards Tab	
ID	T6	
Requirements	R8	
Prerequisites	User has logged in	
PASS/FAIL criteria definition	System shows list of all available Rewards to be redeemed	
Procedure	User opens the appUser clicks on Rewards Tab on Navigation Bar	

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Test Name	Navigate to Events Tab	
ID	T7	
Requirements	R15	
Prerequisites	User has logged in	
PASS/FAIL criteria definition	System shows Joined Events and allow user to search for Available Events	
Procedure	User opens the appUser clicks on Events Tab on Navigation Bar	

4.3 Rides

Test Name	Start a Ride	
ID	T8	
Requirements	R2	
Prerequisites	User is in Map Tab	
PASS/FAIL	The Stop button is displayed on the screen	
criteria definition		
Procedure	 User opens the app User clicks on Map Tab on Navigation Bar User clicks on "Start Ride" button 	

Test Name	Perform a Ride	
ID	T9	
Requirements	R2	
Prerequisites	User has started a ride	
PASS/FAIL criteria definition	The location on the map changes	
Procedure	 User opens the app User clicks on Map Tab on Navigation Bar User click on "Start Ride" button User performs the ride 	

Test Name	Stop a Ride	
ID	T10	
Requirements	R5	
Prerequisites	User is performing a ride and he is in the Map Tab	
PASS/FAIL criteria definition	System shows information related to the ride and points earned	
Procedure	 User opens the app User clicks on Map Tab on Navigation Bar User click "Start Ride" button User starts biking User clicks "Stop Ride" button 	

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Test Name	View the Previous Rides		
ID	T11		
Requirements	R2.1		
	User is in the Profile Tab,		
Prerequisites	User has performed at least one ride		
PASS/FAIL criteria definition	System shows path of the ride on map		
	- User opens the app		
	- User clicks on Profile Tab on Navigation Bar		
Procedure	User scrolls vertically the white part of the screen		
	- User reaches Previous Rides section		
	- User clicks on one of the rides		

4.4 Profile Page

Test Name	Scroll Profile Page vertically	
ID	T12	
Requirements	R3	
Prerequisites	User is in the Profile Tab	
PASS/FAIL criteria definition	System shows Profile Page scrolled to	
Procedure	 User opens the app User clicks on Profile Tab on Navigation Bar User scrolls vertically the white part of the screen 	

Test Name	Scroll Badges list horizontally	
ID	T13	
Requirements	R6	
Prerequisites	User is in the Profile Tab, User has earned several badges	
PASS/FAIL criteria definition	IF badge list does not fit in his section THEN System shows Earned Badges not visible before	
Procedure	 User opens the app User clicks on Profile Tab on Navigation Bar User scrolls vertically the white part of the screen User reaches Earned Badges section User scrolls this section horizontally to view the badges 	

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Test Name	Edit Profile	
ID	T14	
Requirements	R4	
Prerequisites	User is in the Profile Tab	
PASS/FAIL criteria definition	User is redirected to profile editing view	
Procedure	 User opens the app User clicks on Profile Tab on Navigation Bar User clicks on "Edit Profile" button 	

Test Name	Change username with an NOT existing one	
ID	T15.a	
Requirements	R4	
Prerequisites	User is editing the Profile	
PASS/FAIL criteria definition	The System displays the new Username typed	
Procedure	 User opens the app User clicks on Profile Tab on Navigation Bar User clicks on "Edit Profile" button User enters a new username User clicks on "Change Username" button 	

Test Name	Change username with an existing one	
ID	T15.b	
Requirements	R4	
Prerequisites	User is editing the Profile	
PASS/FAIL criteria definition	The System displays the new Username typed	
Procedure	 User opens the app User clicks on Profile Tab on Navigation Bar User clicks on "Edit Profile" button User enters an existing username User clicks on "Change Username" button 	

Test Name	Change profile picture	
ID	T16	
Requirements	R4	
Prerequisites	User is editing the Profile	
PASS/FAIL criteria definition	The System displays the new picture selected	
Procedure	 User opens the app User clicks on Profile Tab on Navigation Bar User clicks on "Edit Profile" button User clicks on "Change Profile Picture" button User chooses a picture from gallery or takes a new one 	

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4.5 Teams

Test Name	Create Team	
ID	T17	
Requirements	R9	
Prerequisites	User is in the Team Tab	
PASS/FAIL	User notified with Team created successfully and the new team is	
criteria definition	visible in the list	
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User clicks on a Button with Plus icon User enters a Team name User enters short Team description User clicks on Create team button 	

Test Name	Search Existing Team
ID	T18.a
Requirements	R10
Prerequisites	User is in the Teams Tab
PASS/FAIL criteria definition	System shows User's search results
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User clicks on input field, keyboard shows up User types in possible team name User clicks on search icon on keyboard

Test Name	Search Not ExistingTeam	
ID	T18.b	
Requirements	R10	
Prerequisites	User is in the Teams Tab	
PASS/FAIL criteria definition	User is notified with "no teams found"	
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User clicks on input field, keyboard shows up User types a not existing team name User clicks on search icon on keyboard 	

Test Name	Scroll Team Search	
ID	T19	
Requirements	R10	
Prerequisites	User is in the Teams Tab	
PASS/FAIL	IF the list of teams does not fit the current page	
criteria definition	THEN teams not visible before should now be visible	
	- User opens the app	
Procedure	- User clicks on Teams Tab on Navigation Bar	
	- User search for a team	

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Test Name	Join Team Success	
ID	T20	
Requirements	R10	
Prerequisites	User has searched a Team	
PASS/FAIL	User notified with team joined successfully and the team appears in	
criteria definition	"My Teams" list	
Procedure	- User opens the app	
	- User clicks on Teams Tab on Navigation Bar	
	- User search for a team	
	- User click join team	

Test Name	Team Admin cannot Leave the Team
ID	T21.a
Requirements	R10
Prerequisites	User is Team Admin
PASS/FAIL criteria definition	User is notified with "Admin cannot leave his team"
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User click on a Team Created User click leave team

Test Name	Leave Joined Team
ID	T21.b
Requirements	R10
Prerequisites	User has joined a Team
PASS/FAIL	User notified with "team
criteria definition	left successfully"
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User click on a Team Joined User click leave team

Test Name	View Joined Teams	
ID	T22	
Requirements	R10	
Prerequisites	User has joined at least one team	
PASS/FAIL	System shows list of Teams	
criteria definition	joined	
	- User opens the app	
Procedure	- User clicks on Teams Tab on Navigation Bar	
	- User navigate to joined teams	

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Test Name	Scroll Joined Teams
ID	T23
Requirements	R10
Prerequisites	User has joined several teams
PASS/FAIL criteria definition	System shows Joined Teams not visible before
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User navigates to My Teams User scrolls teams

Test Name	View Team Information
ID	T24
Requirements	R10
Prerequisites	User is in the Team Tab, User has joined at least one Team
PASS/FAIL criteria definition	System shows information about Team
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User finds team who which to learn about User clicks on the Team User reads data about Team

Test Name	View Team Member List	
ID	T25	
Requirements	R10	
Prerequisites	User is inside a Team he joined	
PASS/FAIL criteria definition	System shows information about Member list	
Procedure	 User opens the app User clicks on Teams Tab on Navigation Bar User finds team who which to learn about User clicks on the Team User clicks on "Team Members" User looks through members of Team 	

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4.6 Events

Test Name	Search for an existing Event
ID	T26.a
Requirements	-
Prerequisites	User is in Events Tab
PASS/FAIL criteria definition	System shows a list of available events
Procedure	 User opens the app User clicks on Events Tab on Navigation Bar User looks through events list User types a name for the event

Test Name	Search for a NOT existing Event
ID	T26.b
Requirements	-
Prerequisites	User is in Events Tab
PASS/FAIL criteria definition	System shows "No events found"
Procedure	 User opens the app User clicks on Events Tab on Navigation Bar User looks through events list User types a name for the event

Test Name	Join Event
ID	T27
Requirements	R15
Prerequisites	User is in Events Information
PASS/FAIL criteria definition	System shows the event in the "Joined Events" list
Procedure	 User opens the app User clicks on Events Tab on Navigation Bar User search for events and looks through events list User click "Join" button in an event

Test Name	Leave Event
ID	T28
Requirements	-
Prerequisites	User is in Events Tab
PASS/FAIL criteria definition	User notified with "Event left successfully"
Procedure	 User opens the app User clicks on Events Tab on Navigation Bar User looks through events list joined User clicks on "Leave" button in an event

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Test Name	Create an Individual Public Event
ID	T29
Requirements	R12
Prerequisites	User has logged in, User is a System Admin
PASS/FAIL criteria definition	System shows "Public Event created successfully", A new Individual Public Event is displayed in the page
Procedure	 User opens the app User clicks on Events Tab on Navigation Bar User looks through events list User clicks "Create Public Event" User provides the information needed User clicks "Create"

Test Name	Create an Exclusive Event
ID	T30
Requirements	R13
Prerequisites	User has logged in, User is a System Admin
PASS/FAIL criteria definition	System shows "Public Event created successfully", A new Exclusive Event is displayed in the page
Procedure	 User opens the app User clicks on Events Tab on Navigation Bar User looks through events list User clicks "Create Public Event" User check the "exclusive event" box User select a badge User provides the information needed User clicks "Create"

Test Name	Create Private Team event
ID	T31
Requirements	R11, R16
Prerequisites	User has logged in, User is a Team Admin
PASS/FAIL criteria definition	System shows "Private Event created successfully"
Procedure	 User opens the app User clicks on Team Tab on Navigation Bar User clicks on "Create Event" button User fills out information User selects "Private" event User selects an adversarial team User clicks on Confirm

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Test Name	Propose Public Team event
ID	T32
Requirements	R14
Prerequisites	User has logged in, User is a Team Admin
PASS/FAIL criteria definition	System shows "Public event sent correctly"
Procedure	 User opens the app User clicks on Team Tab on Navigation Bar User clicks on "Create Event" button User fills out information User selects "Public" event User clicks on Confirm

4.7 Badges and Rewards

Test Name	Achieve Badges
ID	T33
Requirements	R6
Prerequisites	User is performing a ride
PASS/FAIL criteria definition	System shows earned Badges
Procedure	 User opens the app User clicks on Map Tab on Navigation Bar User click "Start Ride" User Starts biking User clicks "Stop Ride" User achieve a badge User navigates to Profile Page

Test Name	Check Available Rewards to Redeem
ID	T34
Requirements	R8
Prerequisites	User is in the Reward Tab
PASS/FAIL criteria definition	System shows all available rewards to be redeemed
Procedure	 User opens the app User clicks on Rewards Tab on Navigation Bar User looks through available rewards to choose from

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Test Name	Redeem Reward
ID	T35
Requirements	R7
Prerequisites	User is in the Reward Tab User has enough points to redeem a reward
PASS/FAIL criteria definition	System notifies the user with "You have redeemed your reward"
Procedure	 User opens the app User clicks on Rewards Tab on Navigation Bar User looks through available rewards to choose from User clicks in the button near the reward and then GET User clicks on YES in the confirmation pop-up

Test Name	Check Redeemed Rewards
ID	T36
Requirements	R8
Prerequisites	User is in the Reward Tab, User has redeemed at least one reward
PASS/FAIL criteria definition	System shows all redeemed rewards
Procedure	 User opens the app User clicks on Rewards Tab on Navigation Bar Clicks on "Redeemed Rewards" button

4.8 Web Application

Test Name	Display statistics on Web Dashboard
ID	T37
Requirements	R3, R18
Prerequisites	User is registered in the app
PASS/FAIL criteria definition	System should display the statistics of the user
Procedure	- User opens the web page

Test Name	Display the ride history on Web Dashboard
ID	T38
Requirements	R18
Prerequisites	User is registered in the app
PASS/FAIL criteria definition	System should display all the recorded rides
Procedure	- User opens the web page

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4.9 Adds-on

Test Name	Air Quality Alert
ID	T39
Requirements	R19
Prerequisites	User has logged in
PASS/FAIL criteria definition	System shows a pop-up with the air quality of the current location
Procedure	 User opens the app User clicks on Map Tab on Navigation Bar User Starts a ride

Test Name	Adverse Weather
ID	T40
Requirements	R17
Prerequisites	User is performing a ride in adverse weather
PASS/FAIL criteria definition	The points earned should be higher
Procedure	 User opens the app User clicks on Map Tab on Navigation Bar User clicks "Start Ride" User starts biking in adverse weather condition User clicks "Stop Ride"