Opti'tour : User Stories

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Abstract—This document defines all the user stories involved in the project.

1. User Stories

> **Nota Bene**
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> Highlighted stories were added after the second iteration based on client feedback. The others represent the initial user stories.

Map Management

US1 - Load city map

As a user, I want to load a city map from an XML file, so that I can visualize the intersections and roads of the city.

US2 - Display map

As a user, I want to see the loaded city map displayed graphically, so that I can understand the delivery context.

US3 - Display warehouse

As a user, I want to see the warehouse location on the map, so that I know where courier tours start and end.

Courier Management

US4 - Set number of couriers

As a user, I want to define or change the number of couriers, so that I can simulate different delivery team sizes.

US5 - Assign courier to requests

As a user, I want to assign specific couriers to delivery requests, so that each courier has a personalized tour.

Delivery Request Management

US6 - Add a new delivery request

As a user, I want to add a delivery request, so that the system can plan tours accordingly.

US7 - Specify pickup and delivery details

As a user, I want to enter the time needed for pickup and delivery, so that the system can calculate accurate schedules.

US8 - Reject infeasible requests

As a user, I want the application to reject a delivery request if no courier can handle it in the scheduled time.

US6-bis - Add a new delivery request via the map

As a user, I want to add a delivery request by clicking on the map, so that it's easier to add a new delivery request.

Tour Optimization

US9 - Compute best possible tour

As a user, I want the system to compute the optimal tour for each courier, so that the arrival time at the warehouse is minimized.

US10 - Handle constant travel speed

As a developer, I want the system to assume a constant speed of 15 km/h, so that distance and time computations remain consistent.

US11 - Update tour on new request

As a user, I want the system to be able to recompute the courier's tour when a new request is added, so that the route always stays optimal.

Visualization and Output

US12 - Display courier tours on map

As a user, I want to see each courier's tour drawn on the map, so that I can visualize the planned deliveries.

US13 - Display pickup and delivery details

As a user, I want to see for each pickup and delivery its address, arrival time, and departure time, so that I can follow the schedule.

US16 - Display selected courier tours on map

As a user, I want to select couriers to only see their tours drawn on the map, so that I can visualize the planned deliveries that I want.

US17 - Display corresponding pickup/delivery when the other is clicked

As a user, I want to see the corresponding linked pickup or delivery highlighted when I click on their other point.

Persistence

US14 - Save current tours

As a user, I want to save the current tours to a file, so that I can keep them for later use.

US15 - Load previously saved tours

As a user, I want to restore tours from a previously saved file, so that I can resume a previous planning session.