

24Meds: Product specification report

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[This report should be written as the main source of technical documentation on the project, clarifying the functional scope and architectural choices. Provide concise, but informative content, allowing other software engineers to understand the product and quickly access the related resources.

Tips on the expected content, along the document, are meant to be removed.

You may use English or Portuguese; do not mix.]

1 - Introduction

1.1 - Overview of the project

<contextualize the objectives of this project assignment in the scope of the TQS course>

<introduce your application: brief overview of the application. What is it good for? Introduce the name of the product if it has one>

The objective of this assignment is to implement a digital marketplace project splitted in two sub-projects:

- A deliveries platform, that handles the system's logic behind orders and riders matchmaking and that contains a performance dashboard with the most relevant statistics (such as: new orders, clients reviews, user registrations, riders reviews, etc).
- A market application, that should integrate with the deliveries platform, could be any kind of marketplace, in our specific case it is a parapharmacy implemented with an end-user mobile app.

Bearing these requirements in mind, we came up with the idea of both OnYourWay, the deliveries engine and 24Meds, an online parapharmacy market store.

24Meds' goal is to hand over non-prescription medicines and self-care products at home, 24 hours per day, 7 days a week, prioritizing the client's accommodation. For that purpose, they hired OnYourWay to handle and manage their products' distribution.

1.2 - Limitations

<explain the known limitations/unimplemented (but planned) features>

In a perfect scenario, our application would be available at 24/7. However, that depends on the riders that are available for delivering.

2 - Product concept

2.1 - Vision statement

Our application will focus on providing support and comfort to users wanting to get their needed medication without having to move outside their home. It will be specially designed for people that can't leave their house due to their illness these users will be able

to count on us 24/7 instead of having to resort to family and friends that might not always be available for their needs. This is a fairly unused aspect of courier services and we feel like our application will fit this gap in the market due to its high reliability and readiness.

At the start we had plans to make the application also able to read doctor's prescriptions on delivery in order to reach even more users. (caso não dê preencher este paragrafo).

Systems like Glovo also provide this kind of services but they only allow for scheduled deliveries when it's late at night, we instead intend to have a more user focused approach of always being available by counting on late night riders to deliver the needed medication to users.

To develop the initial requirements and to develop the initial concept we recurred to close relatives and friends in the medical and pharmaceutical industries to provide us with a bigger depth of knowledge.

2.2 - Personas

Client:

Steven Stifler is a married 33 years old mechanic, born and raised in Aveiro. He currently works in his father's service shop located near Aveiro Forum. When he was a kid he wanted to be a chef but helping his dad during his teenage years made him grow a strong love for the family business. The more time passes, the more his workload grows, as his father gets older. Because of his age, he needs constant attention and care, mostly because his immune system is getting weaker, making him vulnerable to several problems and diseases. Stifler needs to manage work and his dad's health.

Motivation: Because of his workload and taking care of his father he doesn't have much time to go to pharmacies or stores to get his dad's medication. He would like a service that could deliver him the products he needs in a quick and easy way.

Rider:

Joan Weah is a 25 years old student, currently taking her master's degree in Accounting. She was born in Viana do Castelo and currently studies in Porto. She is a very active person and likes to make plans and trips with her friends. She would like to save up some money for the summer so she can travel and party.

Motivation: To save up some money she would like to start a job as a delivery rider at OnYourWay.

Admin:

Megan Price is a 54 years old businesswoman, born in Vigo, Spain. However, her parents traveled a lot for work and ended up moving to Porto, Portugal. She grew up there and studied Economics in Lisbon. She was always interested in start-up businesses and she started her deliveries engine service in 2014 called **OnYourWay**, which aims to provide

pharmaceuticals pickup and delivery services for clients. She sees her business as a success but wishes to continue growing it and reach more stores.

Motivation: She wishes to see her company reach more stores and cities, while always being able to see how the system is doing, see the performance of the riders, manage the stores associated and have a general overview of the system's global statistics so she can focus on the important task of growing her company.

2.3 - Main scenarios

Scenario 1: Client

His father has some headache issues and Steven doesn't have time to pick up the meds at a pharmacy. Therefore, he opens the 24Meds app and orders a box of paracetamol to his address.

Scenario 2: Rider

Joan is free at the moment so she opens the app and sets herself as available to work, so she can start delivering purchases.

Scenario 3: Admin

Megan Price is unsatisfied with **OnYourWay** growth and revenues lately so, in order to figure out what is actually happening, she consults the business statistics in her Admin Dashboard.

2.4 - Project epics and priorities

todos

[Apresentar um plano indicativo para a implementação incremental da solução ao longo de várias iterações/releases, explicando as funcionalidades a atingir por [epics](#)]

Since in Agile software development the project requirements and desires are usually expressed through epics, we followed a Mission-Based Prioritization which consists in ranking our epics' priorities from 1 to 4, in the following table.

Sprint 1 (19/05 - 26/5)

Task	Priority
Create Prototypes Balsamiq Web App 24 Meds	2
Create Prototypes Balsamiq App 24 Meds	2
Create Prototypes Balsamiq Web App On Your Way	2
Create Prototypes Balsamiq App On Your Way	2
Define Domain Model	4
Define Architecture	4
Build Prototype Web App 24 Meds	3
Build Prototype Web App On Your Way	3
Build Prototype App 24 Meds	3
Build Prototype App 24 On Your Way	3
Backlog management system set up in Jira	4

Sprint 2 (26/05 - 02/06)

Epic	Priority
Mobile application has functional GPS	1
A rider can register and login in deliveries engine	1
A market app client can see the list of products	3
A market app client can add products to the cart	
A client can make an order	4
Rider has a browsable mockup app	4

Sprint 2 (03/06 - 09/06)

Epic	Priority
A rider can read a client's QR code	2
A client can access the QR code connected to his order	2

3 - Domain model

<which information concepts will be managed in this domain? How are they related?>

<use a logical model (UML classes) to explain the concepts of the domain and their attributes>

4 - Architecture notebook

4.1 - Key requirements and constraints

Our architecture was designed with the following requirements in mind:

- The delivery system should be independent and able to host multiple stores with different products while being able to receive concurrent requests from these stores.
- The system will need a managing platform used to control riders and see system reports and statistics.
- The system should be deployed in a virtual machine.
- The delivery system should notify riders of their rides' details.
- The delivery system should have an algorithm that designates a rider to delivery and if the rider refuses it should notify another one.
- The system should have an authentication system.

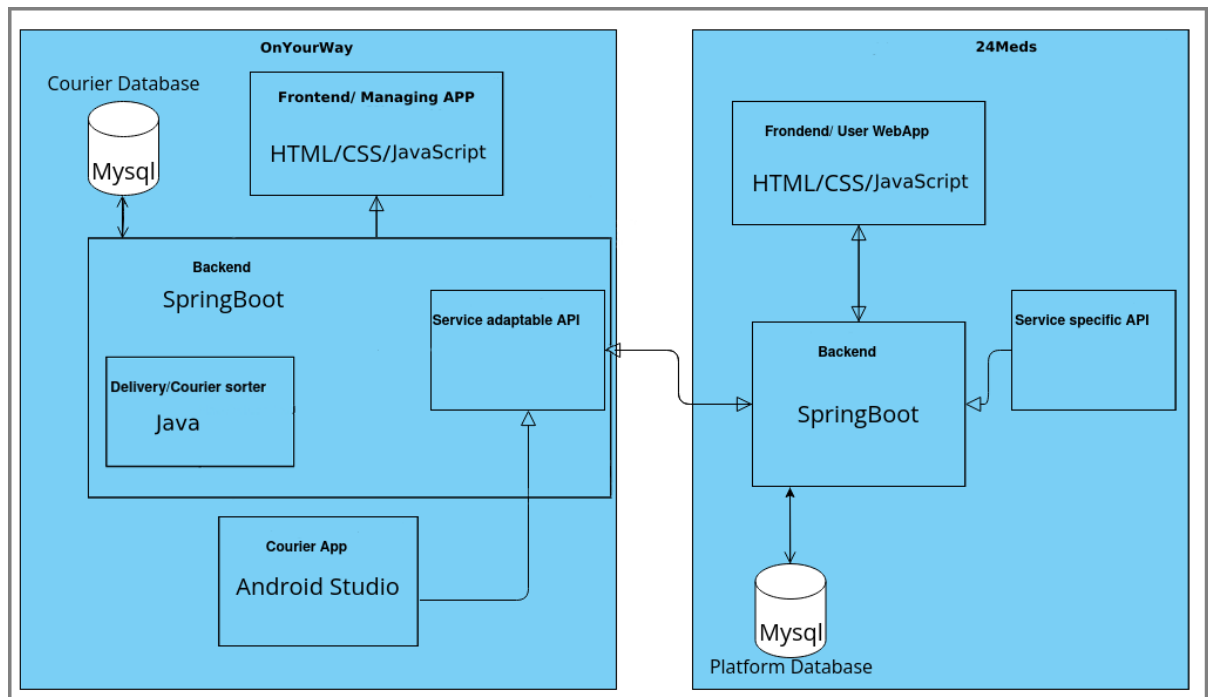
With this in mind, our system will have two main modules that interact via an abstract API.

The first module which is called OnYourWay is a delivery system that upon receiving a request for delivery will designate a rider to it. This module will consist of a logical backend with two integrated modules, an algorithm module that will decide the rider of the delivery, and an API capable of receiving packages from any store that uses the OnYourWay system. This first module also has a web app designed for managers that will be able to control different statistics about the rides. Alongside this, the system will provide a mobile app for riders where they can access and be notified of their deliveries.

The second module will be 24Meds which is a service that centralizes pharmaceutical products and allows its users to make orders. It will have a logical backend as well as an API that will help the frontend app display the products. Besides this, it will have a web app and a mobile app where users can make their orders.

Both modules will have their designated database. In the 24Meds' module, we will have a database where we store the users and the products as well as the pharmacies that provide them and the deliveries. In the second module, we have a database that will store the riders and the deliveries that were requested and made.

4.2 - Architectural view



-

<detail the specific technologies/frameworks that were used>

→ explain how the identified modules will interact. Use sequence diagrams to clarify the interactions along time, when needed

The idea behind our architecture is that there are two main modules that work independently, what we mean by that is, our delivery platform is able to work with any specific platform and is only connected to the current service by an api that abstracts it's contents to the point that any service works with it.

With this said our deliveries platform must have a database that stores our riders and a an algorithm module in python that will sort these riders. We also need an API that is able to receive packages from any kind of service and

→ Discuss more advanced app design issues: integration with Internet-based external services, data synchronization strategy, distributed workflows, push notifications mechanism, distribution of updates to distributed devices, etc.>

4.3 - Deployment architecture

[Explicar a organização prevista da solução em termos configuração de produção (*deployment*). Modelar num diagrama de *deployment*]

5 - API for developers

[Explicar a organização da API. Os detalhes detalhes/documentação dos métodos devem ficar numa solução *hosted* de documentação de APIs, como o [Swagger](#), Postman documentation, ou incluída no próprio desenvolvimento (e.g.: maven site)

<what services/resources can a developer obtain from your REST-API?>

<document the support endpoints>

6 - References and resources

<document the key components (e.g.: libraries, web services) or key references (e.g.: blog post) used that were really helpful and certainly would help other students pursuing a similar work>