
Product Requirements Document

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Table of Contents

- [Product overview and marketing info](#)
 - [Intro & Goal](#)
 - [Target Audience](#)
 - [Market place](#)
 - [Competitors & Product Inspiration](#)
- [Users](#)
 - [User type "Seller"](#)
 - [User type "Buyer"](#)
 - [User type "Visitor"](#)
- [Registration](#)
- [Use Cases](#)
 - [Use Cases "Sellers"](#)
 - [Use Cases "Buyer"](#)
 - [Use Cases "Visitor"](#)
- [Business Logic \(Functional Rules\)](#)
- [Notifications](#)
 - [E-mail notifications](#)
 - [Interface notifications](#)
- [E-commerce](#)
- [Admin panel](#)
 - [Admin Panel user type "Administrator"](#)
 - [Admin Panel user registration](#)
 - [Use Cases "Administrator"](#)
 - [Admin Panel e-mail notifications](#)
- [Database and tables structure](#)
- [Server](#)
- [Development milestones](#)
- [Next versions ideas](#)

1 Product overview and marketing info

1.1 Intro & Goal

Leafyart – internet portal for sale and resale of artwork, where the sellers can post their artworks and buyers find interesting to them products and contact the seller with questions and offers.

The process of sale and payment is not carried out on the portal itself. The purpose of the platform is to establish the contact between the buyer and seller and they will later on negotiate on the price, payment and shipping options.

The main advantage of Leafyart is comfortable and ergonomic classification, mainly usage of tags for artworks, which is not implemented so widely on any standard platforms to advertise the sale of diverse goods.

In general, it is a user-oriented portal, where the positions/offers are selected for the user based on his/hers views and likes.

Commercialization is conducted through the payment by the seller for the placement of his artwork on the website.

1.2 Target Audience

Sellers - 50% men, 50% women. Average age from 18 to 30 years old, living in developed countries, with an average income. Proficiency with computers is above average, creative, open-minded, evaluating portal as a way to earn money.

Customers - 75% men, 25% women. Average age from 25 to 40 years old, living in developed countries, with an income above average. Average proficiency with computers, evaluating portal as a tool for approximation to their hobby.

1.3 Market niche

The main niche for this product on the first stages are the countries of the European Union. The peculiarities to consider of those markets are Multilanguage and Multicurrency support. Initially, the portal will be implemented in English and Russian languages, and the price will be stated in a single currency – Euro.

1.4 Competitors & Product Inspiration

Website	Advantages	Disadvantages
www.auto24.ee	<ul style="list-style-type: none">Ergonomic search with the initial division of buyers into categories and potential e.g. "I'm not sure which model is right for me ..." and "I know exactly what I want."Possibility of holding an auction	<ul style="list-style-type: none">Website layout does not support mobile devicesWhen reviewing a post, it does not provide recommended option
www.art.com	<ul style="list-style-type: none">Simple search	

2 Users

2.1 User type “Seller”

SELLERS – users that will add items for sale, filling characteristics (description, tags, images etc.), indicate that an item has been sold. For these users registration and account validation are mandatory. This type of user can perform as a buyer as well.

2.2 User type “Buyer”

BUYERS – users that conduct search among posts and items uploaded by the sellers. They can view the post, like it, see the details and images as well as contact the seller. For these users registration and account validation are mandatory. This type of user cannot perform as a seller.

2.3 User type “Visitor”

VISITORS – users that will perform exactly like a buyer but with limited functionality. For these users registration is not required. This type of user cannot perform as a seller.

3 Registration

User registration will be as quick and easy as possible for the end user. The below mentioned social networks will be implemented for automatic registration:

- Google+
- Facebook
- LinkedIn
- LiveJournal
- Instagram

Otherwise, the user enters their email and desired password, after which an email with a confirmation is sent and needs to be verified.

In addition, when the registration is done via email, the user can be validated by the administrator (not mandatory). The following fields should be filled in:

<i>User</i>	<i>Field name</i>	<i>Mandatory</i>
<i>Seller/ Buyer</i>	<i>Email</i>	<i>Yes</i>
	<i>Name</i>	<i>Yes</i>
	<i>Surname</i>	<i>Yes</i>
	<i>Password</i>	<i>Yes</i>
	<i>Phone number</i>	<i>Yes</i>
	<i>Skype</i>	<i>No</i>
	<i>Date of birth</i>	<i>Yes</i>
	<i>Sex</i>	<i>Yes</i>
	<i>Country</i>	<i>Yes</i>
	<i>Town/City</i>	<i>Yes</i>
	<i>Language</i>	<i>Yes</i>
	<i>Profile picture</i>	<i>No</i>
	<i>Description</i>	<i>No</i>

When the information is validated, the user status changes to “Verified User”. Members registered using social networks will get a “Verified User” status directly.

4 Use Cases

4.1 Use Cases “Seller”

Annex 1

4.2 Use Cases “Buyer”

Annex 2

4.3 Use Cases “Visitor”

Annex 3

5 Business Logic (Functional Rules)

- I. Users can modify all their data & information, but after performing any changes, their status becomes “Not Verified”
- II. Only the posts with a status “On Sale” will be taken into account, when the seller is billed.
- III. Every seller is able to post three items/posts at the same time with a status “On Sale” free of charge.
- IV. A chat is linked to an item/post between two users. If the same people will start a chat based on another item/post, it will be a new separate chat.
- V. It will not be possible to change or delete a message in the chat once it has been seen or read.
- VI. A chat conversation will be closed automatically when:
 - a. The post status was changed
 - b. Exit from any of the chat users from the conversation
 - c. No activity throughout 30 days
- VII. A closed chat conversation will be saved for viewing and reading purposes to its members within 30 days after closing.
- VIII. After assigning/marketing the article as SOLD, edit and status changes will be impossible for the seller.

- IX. The post will be saved for 30 days after marking the position as DELETED.
- X. The sorting for the BUYER first of all will be made by categories and sub categories to which the post belongs. Second of all, the rest of the filters will be applied (region, auction, my likes, 4 newest, 4 top liked etc.)
- XI. Filtering by tags will take place by the presence in the search results of any tag from any of the requested ones. Sort results will be prioritized to the number of matches to the results of the query.
- XII. By default, region and auction filters will be disabled.
- XIII. Like option will only be available once. After assigning your like to a post, a repeated action will lead to the removal of the like.
- XIV. An offer can only be placed in the AUCTION if the deadline is not passed and the value of the offer is greater than the value of the previous placed bid.
- XV. It is not possible to carry out any changes to the status of the position if the type of sale is set to AUCTION and there is at least one offer put in place from the BUYER.
- XVI. When the deadline of the AUCTION is reached, the system will automatically determine the winner on the basis of the amount of the offer. After that the post will be assigned with a status SOLD.
- XVII. As a post in AUCTION, the SELLER can modify the deadline once, bringing it to a minimum of 24 hours closer or setting a delay for 24 hours from the original date and time.
- XVIII. When a user is created, a new custom list will be created automatically for BUYERS, named WISH LIST. By default, it will be empty.

6 Notifications

6.1 E-mail notifications

- a) For the SELLER when a new conversation is opened (the BUYER begins correspondence)
- b) For all users when a new message is received in chat and the user isn't online in the system
- c) For SELLER when potential buyers comment on a post
- d) For BUYER when changed take place with the position located in the list of purchased or wish list, including changes in price and status
- e) When a user status or product status is changed by the administrator
- f) For all users bidding in an auction when a new offer has been put in place
- g) For all users bidding in an auction when a deadline has been modified
- h) For all users bidding in an auction when a deadline has been reached and the winner named.

6.2 Interface notifications

All mentioned in S6.1 as well as notification of each new message in chat rooms, as well as their closure.

7 E-commerce

For the SELLER, the option to pay for additional post placement will be available through PayPal.

8 Admin panel

8.1 Admin Panel, user type “Admin”

ADMIN – users that will only work within the admin panel, carry out account management, moderate positions and posts. They will also set the structure of the categories and the list of tags.

8.2 Admin Panel user registration

In order to register a user in the Admin Panel, you must fill in the fields listed in the table below:

<i>User</i>	<i>Field name</i>	<i>Mandatory</i>
Admin	<i>e-mail</i>	+
	<i>Name</i>	+
	<i>Surname</i>	+
	<i>Password</i>	+

For validation purposes, an email message will be generated and sent to the indicated in the email field address.

8.3 Use Cases “Admin”

Annex 4

8.4 Admin Panel e-mail notifications

- a) Users for validation
- b) Paid payment
- c) Message from the user when admin is not in the system

9 Database and table structure

For the functioning of the system two databases will be used.

The first one – a relational database, which will contain and will store all the text information of the portal. For its implementation and usage we will use a relational database management system (RDBMS) PostgreSQL.

The database structure is outlined in **Annex 5**.

The second one – a file database, which will contain and will store all the images (photos, article images, user avatars etc.). For its implementation and usage we will use File Storage DataBase service server.

10 Server

To maintain the development and testing process, the portal will use **Amazon Elastic Compute Cloud Server** platform (**Amazon EC2**).

Instance technical specification:

CPU - 1, 3.3 GHz, 6 credits per hour

RAM - 1 GB

Memory - 30 GB

Output capacity - 15 GB

In addition to the virtual hosting itself, the following services will be:

- a) **Amazon Relational Database Service (Amazon RDS)** – service for a relational database in the cloud. It will set up our PostgreSQL Database.
- b) **Amazon ElastiCache** – service to work with cache memory. On this service we will setup Redis data store.
- c) **Amazon Simple Storage Service (Amazon S3)** - service for object data storage

Before launching the product to the active stage and usage, the server platform and the database will go through a heavy load test. As a conclusion of these tests, we will analyze the need to expand the physical capabilities of the server.

11 Development milestones

- 1) Preparatory stage
 - Development of sketches and diagrams
 - Page design decisions
- 2) The development phase
- 3) Alpha-testing
- 4) Bug fixing
- 5) Beta-testing

12 Next version ideas

- a) Logic with coupons
- b) Logic with auctions
- c) Adding a video to a position from YouTube
- d) Automatic weekly reports with statistics on the positions and articles for the SELLER by e-mail
- e) Adding automatic translation of chat between users
- f) A map of with pins of different articles in order to see the closest ones next to you