PROJECT: ICECREAM

A COMBINED AUCTION AND ONLINE SHOP SOFTWARE

SPECIFICATION

Version 2.0

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Hamburg, Germany

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PURPOSE OF DEVELOPMENT

We need a software solution with which we can set up auctions and sell products in a classic way.

This web application must run as one of 4 available modes. The running mode must be configured in a config File.

1. PennyAuctions (last wins)
2. Auction (like eBay, highest wins)
3. Shop (direct buy only)
4. Mixed

We expect more than 15.000 Users every day we high peeks at different times of the day. One of the most important criteria for us is the extensibility and horizontal scalability of the finished web application. In your proposal, you need to describe how you want achieve that.

PENNY AUCTION MODE

WHAT ARE PENNY AUCTIONS?

A bidding fee auction, also called a penny auction, is a type of all-pay auction in which all participants must pay a non-refundable fee to place each small incremental bid. The auction ends after a period of time, typically ten to twenty seconds. Without new bids the last participant to have placed a bid wins the item and also pays the final bid price.

Bids on auctions increase a countdown by several seconds, the last bidder at the end of the countdown wins the auction. A Moderator can create new penny auctions in the backend. He chooses a product, start time, locations (geo location, Not all auctions are visible in all countries), some other options like featured auction (display this auction on the frontpage).

And also some penny auction types..

- **Peak Auction - Only allow bidding on the auction during a set time.**
- **Nail Biter - The Bid Butler cannot be used on this auction.**
- **Minimal bid. – a fixed minimal bid is req. for biding**
- **Penny Auction - This will make the bid increment increase by 0.01 each bid.**
- **AuctionBid only – only Auctionbids allow here**
- **BuyBid only – only Buybids allow here**

This is the most important mode, and we need to finish it first.

USER STORIES

REGISTTRATION & LOGIN

1. User register himself via registration form. After that he receive an E-Mail with activation link. He clicks on this activation Link to activate his account.

2. User click on a button Login, he enter a username and password and clicks on login. After that he is logged in.

AUCTIONS

1. User click on menu ->" All Items", now he sees 12 running Auctions. Each Auction has a button "offer now". Our user clicks on this Button, his Bid is now placed.
2. User click on a menu -> "All items", now he sees 12 running auctions. Each Auction has Title and Image, he clicks on a title or image, now he sees a detailed view of this auction. He clicks on "offer now", his bid is now placed.
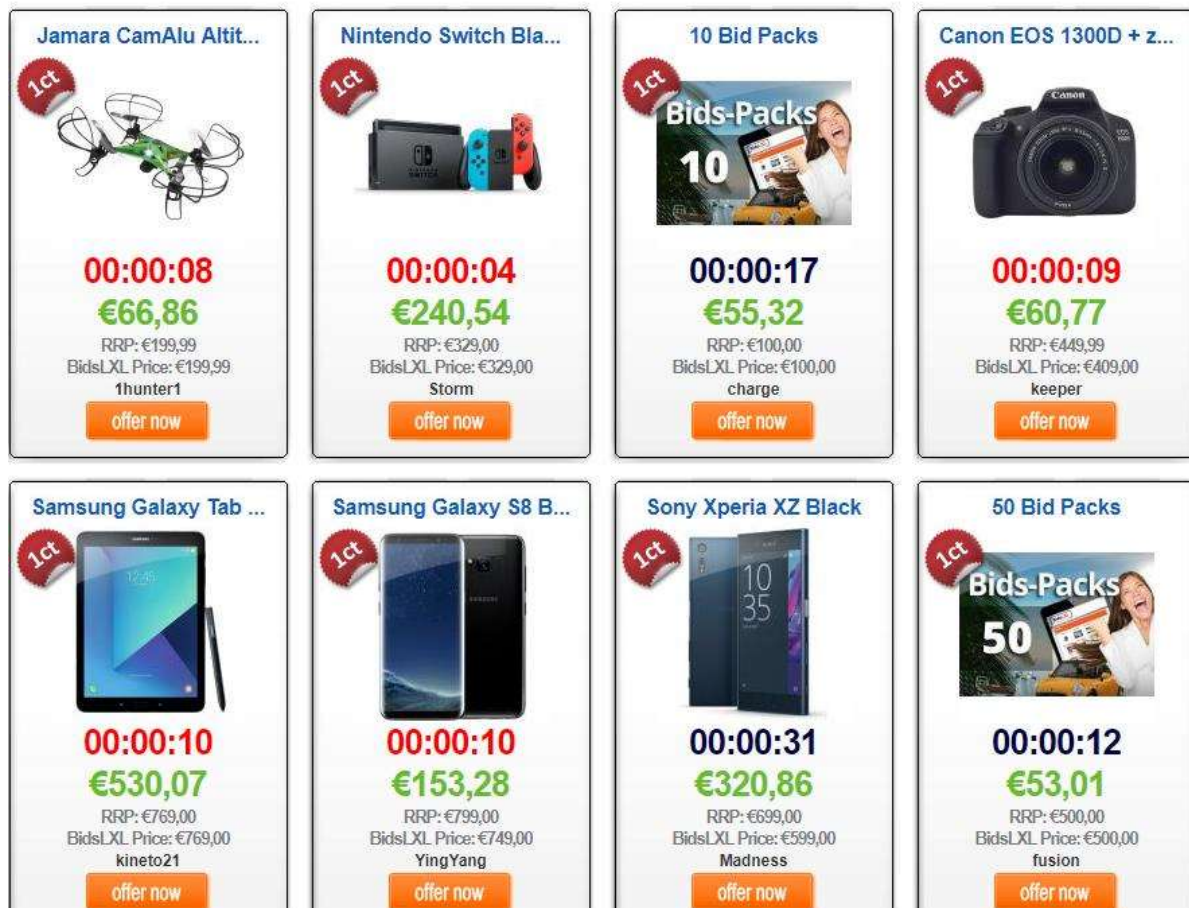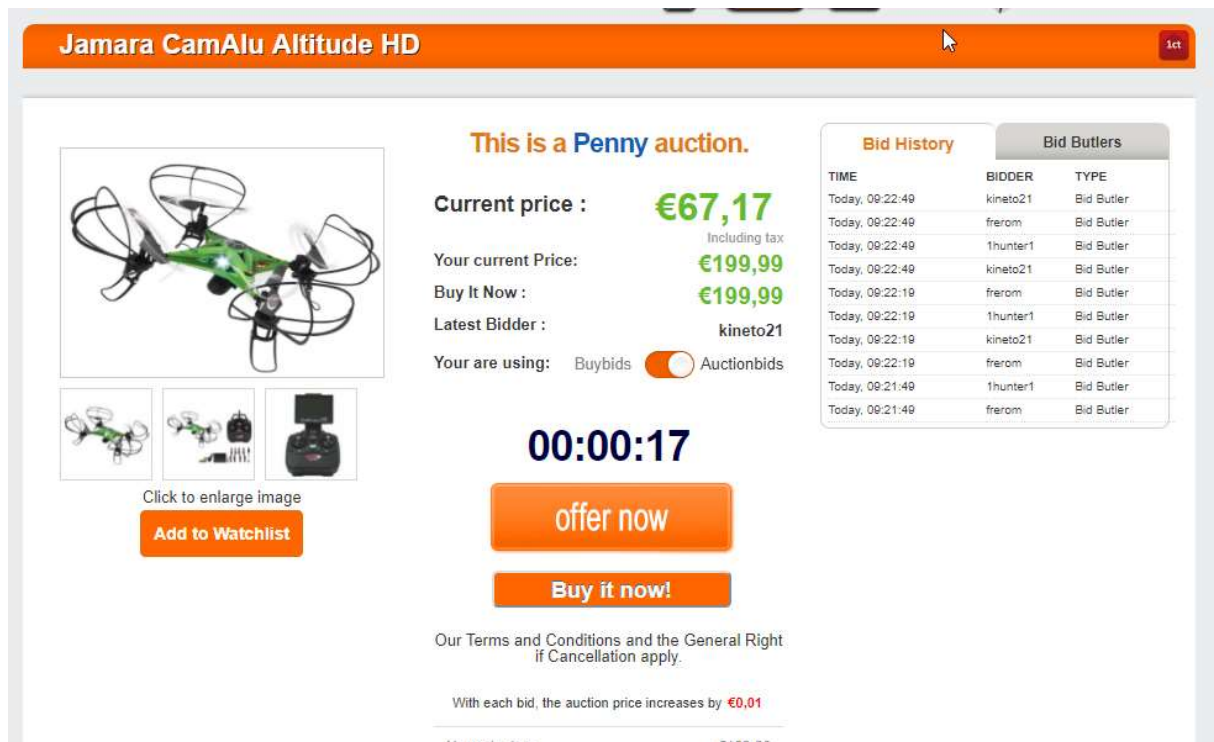

Figure 1 - Auctions overview

Figure 2 - Detailed View

AUCTION MODE

After the lapse of time, the user with the highest bid wins, and must pay for the product.

SHOP MODE

No Auctions here, only Products with fixed price.

MIXED MODES

Moderator can create Auctions, PennyAuctions and or products with fixed price for direct buy.

This mode must be enabled or disabled in a config file of the platform.

IMPORTANT TERMS

• BID / BIDs is a digital currency of the platform. This is divided into BUYBID and AUCTIONBID

- BUYBID must be purchased for real money.
- AUCTIONBIDS given to users as a gift.
- CRUD - Create, Read, Update, Delete
- Bidbuttler – A bid bot, can be activated by all users.

CORE FUNCTIONS

REALTIME PENNY AUCTIONS CRUD

Live auctions have a timer (countdown). Auctions can provide users with bids. The auctions can be limited by region (geolocation). Auctions can be placed on an observation list of different users. This kind of auction increase countdown time by a predefined number of seconds after each bid (cap. Is also defined). Example: real-time penny auction of an iPhone is equal to 1 (last second) and a user place a bid for it, so the countdown timer will be increased by 10 seconds. If two different users placed a bid, so it will be increased by 20 seconds and so on… but max cap is +60 sec.

SELL PRODUCTS

A Moderator can put a Product with a price for sale. All users can direct buy it and pay via PayPal, Credit Card. We think about to integrate PayPal Braintree Service or Stripe Payment….

REALTIME AUCTIONS

Moderator can put a Product for sale for a defined time as Auction. After this time, the user with highest bid wins. It is exact like E-Bay.

REGISTRATION & LOGIN

The registration can be disabled by admin. There will also be a REST service, which will allow the entry of new members.

For registration name, address is required. The e-mail address must be activated by the user by means of a confirmation e-mail.

Users can specify when registering to receive the newsletter

TECHNICAL VIEW

Since OAuth 2.0 is the industry-standard protocol for authorization. We need to implement OAuth2

ADMIN DASHBOARD

We will give you a popular Angular 4 Bootstrap 4 Template you can build on.

BIDBUTTLER (BID BOT)

Users can activate a Bidbuttler for individual auctions if they allow it.

With its help, a bid is automatically set in the predefined second (Admin secures the second). Bidbuttler can set Auctionbids as well as Buybids. Example: Admin decide Bidbuttler second to 1. User "A" want to enable his Bidbuttler for Auction: iPhone. If the countdown of a real time penny auction is equal to 1 (last second), his Bidbuttler place automatically a bid for him.

An auction bot can be used by any user. Before a user can activate the auction bot (Bidbuttler), he must select the auction, and define how much bids the bot can spend. The auction bid is only for penny auctions. It cannot be used for other auctions or direct sales. An admin can disable Bidbuttler for specific penny auctions.

BIDBUTTLER STRATEGY

Each user can choose which strategy to follow his Bidbuttler. Auctionbids as first or Buybids first.

Example: A user has 10 Buybids and 5 Auctionbids, he choose Auctionbids first tactic.

So, his Bidbuttler Bot will bid 5 times with Auctionbids after that he will switch to Buybids.

Every user can choose can configure his strategy as default in his user profile, but it must be possible to change a strategy for specific PennyAuctions. Example: A User defined Auctionbids first in his profile. So, all PennyAuctions for him are as default "Auctionbids first". But on bidding for a product, he can still change this strategy by using a switch like on a mockup below.

SUGGESTION (WISHES, SUGGESTIONS)

A form where users can express their wishes. The admin can enable / disable a reward in the form of bids and set the height. Users suggesting the improvements will thus receive a reward. A user can only once receive a gift from suggestion function.

USER HISTORIES

Users can see when they bid on which auctions and what bids they bought.

ACL

Three roles are implemented. Once the admin, moderator and user role. Users can buy and place bids. Moderators can also manage content. Administrators can also change the configuration of the web application.

PRODUCTS CRUD

Moderators can create products with a picture and description and arrange the categories. Attention: On creation of products we will not defined the price! Here we can only create/add new Products.

NEW PAGES CRUD

The moderator can create new pages and fill them with text using a RichTextEditor. These pages should be inserted as a menu in the menu bar or as footer menu at the bottom of the page. (like imprint)

CATEGORIES | CRUD

Moderators can create new categories. He can add products to this categories, a product can belong to more than one categorie.

CREDITS (GIFT, PROMOBID)

Two types of credits are implemented.

1. Credit as a reward for an improvement proposal. The amount of the credit can be determined by the admin.

2. Credit for the entry of a promocode. These promocodes can be created by administrators.

NEWSLETTER & E-MAILS

Moderators can write and send newsletters; the newsletter is only sent to the users who have approved the newsletter.

Critical Newsletter: Administrators can write e-mails and send them to all users regardless of their newsletter configuration.

TECHNICAL VIEW OF NEWSLETTER

We need to have 2 options for sending emails.

1. Send E-Mail from our server
2. **Send E-Mail mailchimp service**

So as admin it must be possible to edit configuration to enable mailchimp.

ACCOUNTS

Users can, when logged in, see the amount of the account, history. Change own address and change the bid strategy. You can also sign up for the newsletter. Users can also create observation lists and then view them in their account. They also see the auctions already won by them. They can delete own account; this function must be enabled by admin in web applications config file.

CANCELATION

A user can also request a cancelation of a won auction or bought product. We need some options in a config file for this function. Like day limit for cancelation right, or disable this right at all.

STATISTICS

The administrator can display different statistics. For example, the successful auctions, the output of all user's bids to the system. Sum of all bids in system....

CONFIGURATION

Individual functions on the page can be turned on / off by the administrator directly in admin area, or config files.

- Currency of the Web application
- Value of VAT
- Activate / deactivate the Bidbuttler system.
- Edit database
- Edit mailchimp data
- Edit Google Analytics Key
- Edit Payment gateways like Braintree, Stripe, GoogleWallet
- Edit E-Mail configuration
- Edit active theme
- Edit
- Enable, disable Debug mode
- Enable, disable caching
- Amount of reward for user suggestions.
- Allow / disable registration
-

REST WEBSERVICES

We want heavy use of REST API. We need a swagger documentation of the API. Implement a REST API with 0Auth 2.0

- CRUD Users
- CRUD PRODUCT Information
- CRUD PRODUCT for sell
- CRUD CATEGORIES
- CRUD BIDS (Account)
- CRUD AUCTIONS
- CRUD User History

LICENSE SYSTEM

Every installation must contact our server and proof the license every day. You can offer us some other solutions for this in your proposal.

MULTILANGUAGE

It must be very easy, to add new languages. Every user can switch over the languages. All of the text must be placed in a language file, so professional translators can translate it to many other languages.

TEMPLATING

It must be possible to replace design templates. Admin can activate templates in a config file. Example template = "blueSky" so blueSky is activated....

PAYMENT

We need to integrate PayPal and Credit card services, like Braintree or Stripe. Admins can disable payment module in a config file.

NOTIFICATION E-MAILS

Confirm E-Mail, Winner, Auction Closed,

PDF BILL, INVOICE GENERATOR

After a User won an auction or bought a product, we need no generate a new invoice and send it via E-Mail

INSTALL SCRIPT & BACKUP

At the end, we need an easy to use UI Installer for this Web application. Also we need a backup function for admins.

GOOGLE ANALYTICS CONNECTOR & GOOGLE TRACK

We need to integrate Google Analytics into the Web application via API KEY. Also we need a function to track Auctions and Products, so we can better analyze users behavior. Maybe we need some help at this point from you, to better understand how this can work.

CONTACT FORM

We need a simple contact form, with name, email and message.

CLEANER

Clears out the previously ended auctions from our website and keeps everything running smoothly. With this function, we want to prevent the database from growing without end

- Clear option - the number of days the auctions should remain
- Clear all option the number of days until ALL auctions are deleted

For this we can user cronjobs, or offer us a better solution.
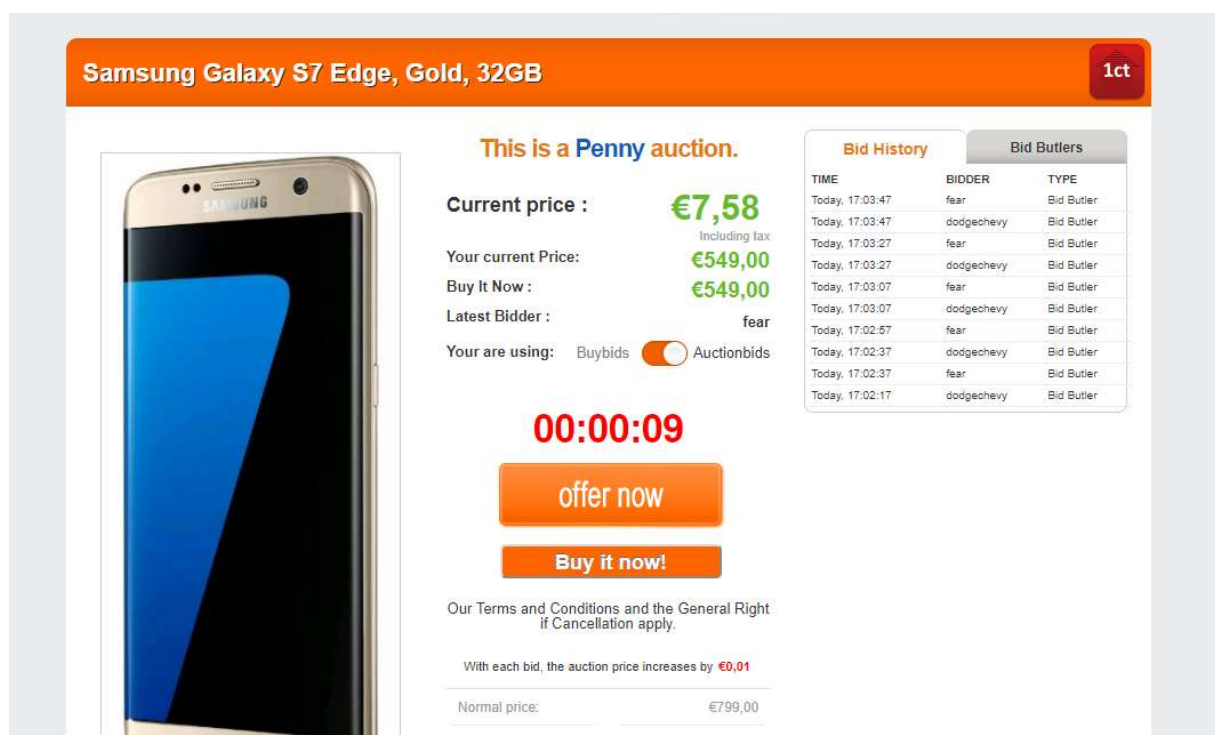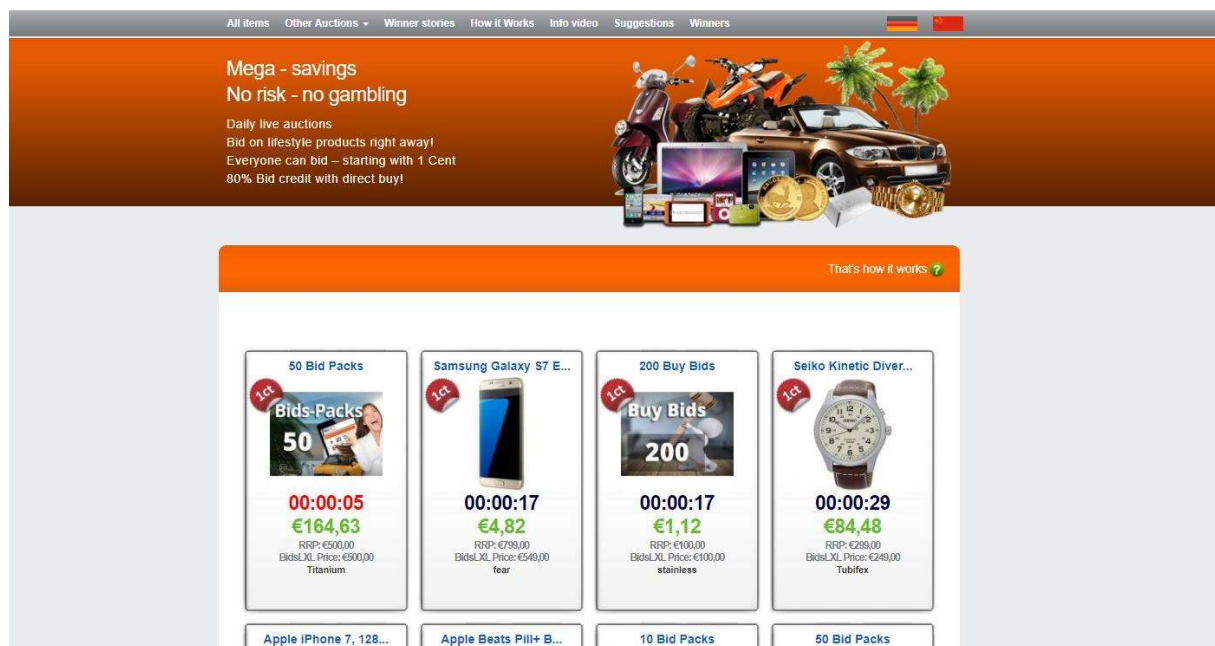
TECHNOLOGIES

Server: Java - Springboot

Frontend: Angular 4

Database: PostgreSQL

WIREFRAMES & MOCKUPS

We have design pattern already, for almost all pages. We give you well defined mockups.

Register

Username *	
Password *	
Retype Password *	
First Name *	
Last Name *	
Email *	

Date of Birth September ▼ - 6 ▼ - 2000 ▼
Gender Male ▼

☑ Sign up for the newsletter?

Referred By	

Enter in the username or email address of someone that referred you.

Register

Already a Member?

If so you may want to login now.

Forgotten Your Password?

Click here to reset your password.

MILESTONES

MILESTONE 1 – THIS IS YOUR TEST TASK

- Init a project
- Register form
- Login Form
- REST API for Register & Login
- OAuth 2.0
- Swagger UI

MILESTONE 2

- User Profile, a logged in user can see his profile
- Finish design (frontend) with empty pages
- Finish design with empty pages (backend)
- If a logged User is an admin, he can switch to admin panel

MILESTONE 3

- Admin can create Products, with all necessary information and images.
- REST API Update, Swagger UI Update
- User Overview menu in admin panel. Admins can now see all users, edit them, delete them.

MILESTONE 4

- Admin can create Penny Auctions.
- User can see this new Penny Auctions and a timer.
- User can bid on a Penny Auction.
- User can change his Bid strategy.

MILESTONE 5

- More detailed User Profile page
- Statistics in admin dashboard.
- Admin can define all E-Mails in admin dashboard
- Admin can define text of some pages in admin dashboard