# Inventory Marketplace

*CMPE 272 Enterprise Software Platforms*
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GitHub: https://github.com/pushyachandra/Inventory-Marketplace
Website: https://inventory-marketplace.herokuapp.com/


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***Abstract*—An inventory marketplace is a platform where businesses can buy and sell surplus or excess inventory. This allows businesses to recover some of their investment in unused stock, while also providing other businesses with a cost-effective way to obtain the items they need. Inventory marketplaces often focus on specific industries or product categories, making it easier for buyers and sellers to find what they are looking for. In general, an inventory marketplace can help businesses manage their excess inventory more efficiently and effectively. Some advantages of using an inventory marketplace include the ability to offload surplus inventory and generate additional revenue, as well as the potential for buyers to access a wider range of products at discounted prices. It can also help to reduce waste.**



***Index Terms*—Review, Marketplace, Mern Stack, Cloudinary**


## I. Introduction

Currently, there are no portals for buying and selling items that are not in demand in a particular store or product whose "sell-by date" is near. As per the US department of agriculture: most shelf-stable foods are safe indefinitely, Packaged foods (cereal, pasta, cookies) will be safe past the 'best by date as well. Our goal is to build a system that can be used by individuals to know about such products and buy them, and also by shop owners so that they can sell their existing stock which is near the sell-by date. This will help in avoiding food wastage.

## II. Persona

### A. Retail Stores

New India Bazar which is having 100's of products and wants to clear their stock of some products which is not in demand in its location.

Patel Store is having a shortage of some products in their store and wants to refill stock of those products immediately.

### B. Organization

SJSU Pantry or any other similar organization.

### C. Individual

Adam, an individual residing in San Jose

## III. Silent Features

The portal will facilitate buying and selling of food items. Store owners can put items for sale at the same time individuals can negotiate prices while buying. The user has to sign-up first, and upload pictures of the product, a description of the product, the sell-by date, the price at which they are selling, the original price, the location, and a few other details. They can also specify during posting if the price is negotiable or fixed. The consumer can also chat with store owners.

Each seller can see all the products they are actively selling. Once a product is sold, they can archive the product. Each buyer can see all the active items sold by that seller. This web application also lets users add items to their wish lists.

In order to help buyers to navigate through the products on the home page, we have added different options like grouping items based on the kind of food, sorting the items based on parameters like price and date added

As per California state law grocery stores and food, suppliers are required to donate food beyond its "sell-by date" to food pantries and assistance programs [1]. A store owner while placing a product for sale has to put a "sell by" date and if he doesn't get any customers and the "sell by" date has passed he can also decide to donate the same to the organization in need (ex: SJSU pantry) and that product will then go to the archive

We have also provided an option to let the seller donate the stock to orphanages and pantries. Whenever a seller donates the stock, the respective pantry gets notified about it.

## IV. System Architecture

Here we have used Mern Stack. The Frontend is developed in ReactJs while the backend is developed in NodeJs. The database used is MongoDb, We have used Cloudinary for storing images, and for deployment, we have used Heroku

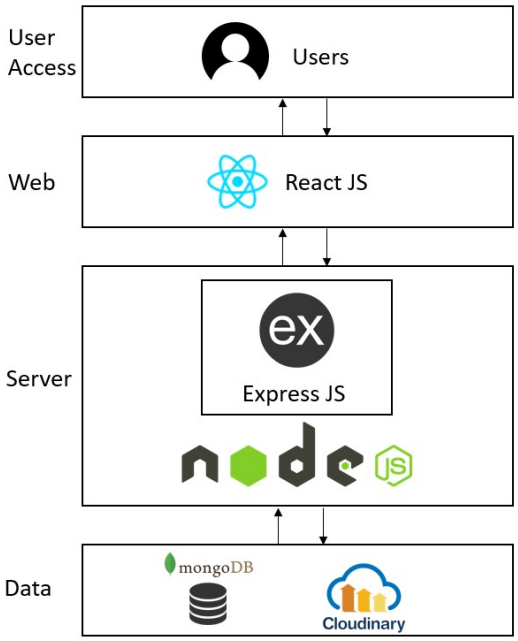


Fig. 1. System Architecture

### A. Front End

The Frontend is developed using ReactJS, a JavaScript library that allows developers to build user interfaces by specifying the desired outcome of an application, which is then rendered in the most efficient way by ReactJS. This declarative approach to programming makes it easier to scale applications by creating reusable components that can be combined and reused throughout an application, reducing the amount of code that needs to be written and maintained.

### B. Back End

The backend is developed in Node.js, a JavaScript run-time environment that allows developers to create high-performance, scalable server-side applications. Node.js is used to communicate with the frontend, database, and Cloudinary platforms. It is an open-source, cross-platform environment that executes JavaScript code outside of a web browser. Node.js has a wide range of features and tools for building server-side applications, including a rich ecosystem of libraries and frameworks, an event-driven and non-blocking I/O model, and support for asynchronous programming. This makes it helpful for scaling applications.

### C. Cloudinary

Cloudinary is a cloud-based service that provides a platform for managing and delivering media files, such as images, videos, and audio.

### D. Heroku

Heroku is a cloud platform that enables developers to deploy and manage their applications. We chose Heroku for several reasons: it is user-friendly, scalable, reliable, integrates well with a variety of add-on services, and offers flexible pricing options, including a free tier for small applications.

## V. Implementation

We can launch the website via: https://inventory-marketplace.herokuapp.com/. After launching the website a person can see all the listed products on Home page. They can also either sign-up or sign in to add their product or purchase anything

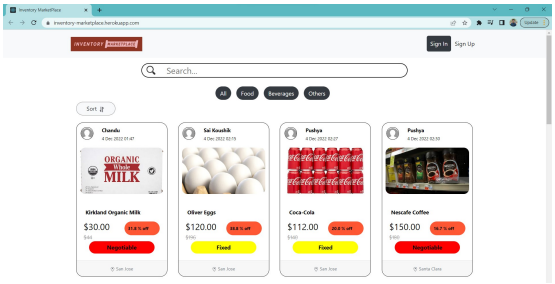

Fig. 2. Home Page

A person can either sign up as a retailer or as an individual. After logging in with their account they can make purchases.

One of the silent features that we have implemented is the donate button. A retailer after listing some product can donate it. The retailer has to enter: Email ID, Subject, Contact no, and Message of any organization that he/she wishes to donate. A mail will be sent to that organization. Also, a seller can see all

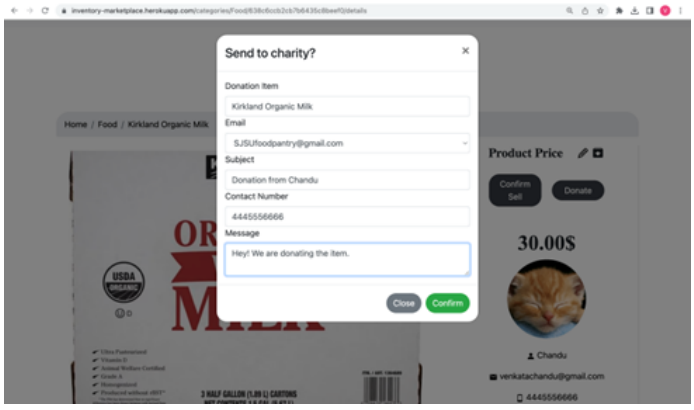


Fig. 3. Donate option

the listed products on his home page. Once a sale is done that product will go to the archive. Apart from this if the seller decides to donate a particular product it will also go to the archive.

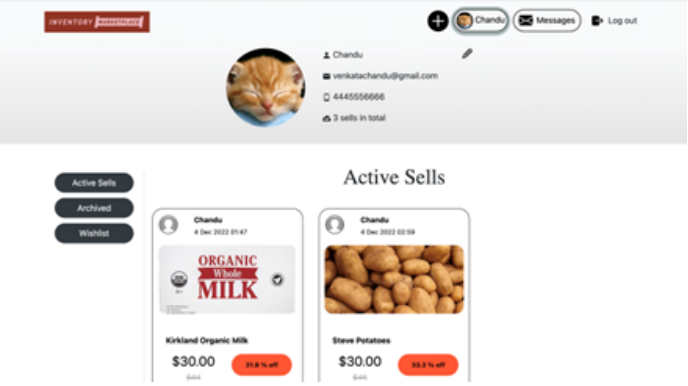


Fig. 4. Active Sells

Another silent feature is a buyer can directly chat with the seller to negotiate the price and discuss other details of the product

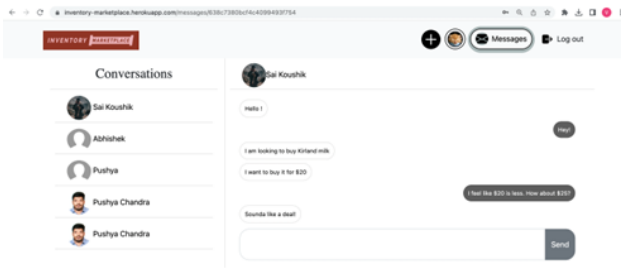


Fig. 5. Chat Feature

Whenever a seller marks the item as sold, it is stored in archives. The seller also has the option to mark the item as an archive, and he can make it active later. Adding archive feature

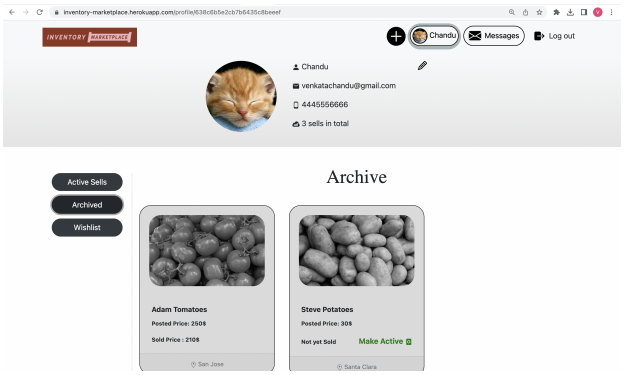


Fig. 6. Archive Feature

Buyers can add the products sold by different sellers to their wishlists.

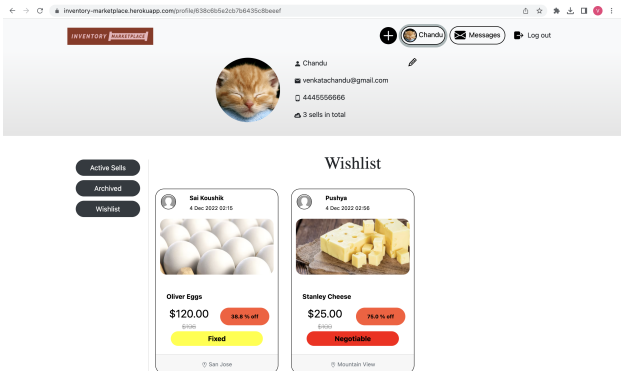


Fig. 7. Wishlist Feature

Buyers can also sort items based on various categories like price, time of listing

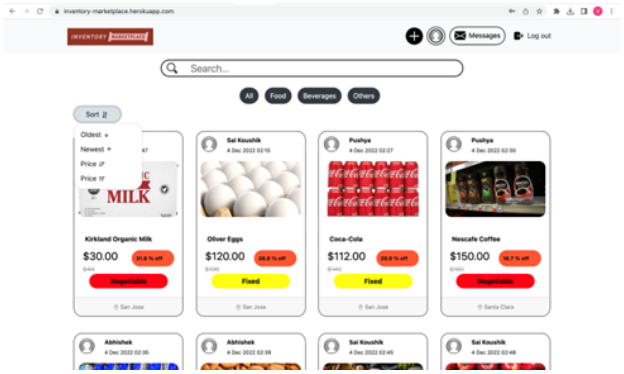


Fig. 8. Sorting Feature

## VI. RESULTS AND CONCLUSION

This system helps in avoiding the waste of food. It also provides a facility for donating foods to charity or to organizations in need via donate button

## VII. FUTURE WORK

Connecting users data store to the application so that they can list and unlist items directly. Showing data analytics and trends using historical data to suggest price points for items.

The application can further be improved by linking it with the actual software/ applications that are used at grocery markets so that whenever the stock is about to get expired, it can automatically notify the store owner. It will also be challenging to make the application versatile as the sellers may use different kinds of software. We also want to further improve the project by implementing a related mathematical formula or machine learning algorithm that provides dynamic pricing based on the type of product and expiry date so that user need not change the price every time and moreover to automatically change the price based on the number of customers interested in the product.

## VIII. Acknowledgement

We thank our professor, Dr. Rakesh Ranjan, for the guidance provided throughout the project. Through his lectures, we learned much about enterprise software platforms and utilized the insight and knowledge to explore and design this project.

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