



## Creating an E Local Store to Support Local Businesses in Covid-19

---

Gulsher Ahmad Kazi, Sanjeev Singh, Velaga Mani Teja and  
Varun Dogra

EasyChair preprints are intended for rapid dissemination of research results and are integrated with the rest of EasyChair.

May 8, 2021

# Creating an E Local Store to support local businesses in Covid-19

Gulsher Ahmad Kazi<sup>1</sup>, Sanjeev Singh<sup>1</sup>, Velaga Mani Teja<sup>1</sup>, and Varun Dogra<sup>2</sup>  
<sup>1</sup>School of Computer Science and Engineering, Lovely Professional University,  
Phagwara, Punjab

gulliamd@gmail.com, sanjeev.11703464@gmail.com,  
velagateja.2429@gmail.com

<sup>2</sup>Assistant Professor, School of Computer Science and Engineering,  
Lovely Professional University, Phagwara, Punjab  
varun.12343@lpu.co.in

**Abstract.** E-Commerce as a sector has been growing exponentially and the coronavirus only expanded its growth. While Covid-19 brought halts to life in general, the e-commerce world definitely lit up. Due to the various fears of the virus, and impositions of lockdown which restricted the movements of individuals, buying daily items like groceries became a challenging task. We aimed to present a solution to this by providing a local e-Store for groceries and making it intuitive and easy enough to be used by anybody, be it a child, seniors or even people from less privileged backgrounds. The pros of online shopping have been brought forth heavily by the pandemic and advantages such as discounts, easy access, no-hassle, avoidance of human contact are very key factors as to why e-commerce is the key for the survival of local stores.

**Keywords:** Coronavirus, ecommerce, lockdown, groceries,e-store, scalable

## 1 Introduction

Covid-19, or the coronavirus pandemic which hit the world globally brought the world to a halt brought about a much needed attention to the lack of measures in times as such where common and middle class citizens suffer the brunt of the lockdowns which were implemented. This included even the daily life requirements such as buying groceries which were the bare essential. Even if the shops were open, there was a huge fear of the virus thus people were avoiding stores in general. Our E Local Store is the solution to this problem. It's a localized vendor to customer distribution system where a customer can shop very easily on an intuitive platform. We have implored our best efforts to try and make the process as easy as possible for any layman to understand. This is to ensure that senior citizens, kids or people from less privileged background can also ensure maximum use of the store.

But what many fail to consider why shifting to ecommerce and online retail was so important for local stores to survive was because of the economic aspects. Due to the lockdowns, and the staggering number of unemployed people, the spending power of an individual kept dwindling and the costs of running a physical store kept rising. Less and less people were buying so basically stores were running themselves dry. Shifting to our E Store ensured that their survival was much more feasible through the pandemic since the costs can be met.

To be able to run and build PHP scripts, we first need to install XAMPP server which holds the project together. The E Local Store is designed as to make users comfortable when they land on our platform, the UX is designed with this in mind. Banners which are both creative and educational greet the user with clear indications and a very easy flow of actions to get the desired product ordered. Payment mode is also kept simple, COD, Paytm and even discount coupons which are applicable giving them the additional benefit. On top of that, every new user gets Rs 25 credited in their store wallet. The back end using SQL and PHP handles the grunt and then the onus of completing order is on the Delivery Boy system which works on two personnel rotation basis. Currently the E Store is a single vendor venture but this needs to be replicated and expanded in countries such as ours so our Local Store is the first step towards building a network of multi-vendor websites which operate in tandem.(20) One of the other important point of interest post development is adoption of such services based on interest, ease of use and others which needs to be explored further.

## 2 Literature

Implementation of a strict lockdown for a period of at least 21 days is expected to reduce the transmission of COVID-19 [1]. On March 24, 2020, the Government of India announced a 21-day national lockdown that has since been extended to May 3, 2020. The lockdown left urban food markets in disarray with severe supply bottlenecks and restrictions on doing business [2]. The main benefit from the customers' point of view is significant increase and saves of time and eases access from anywhere in the globe. Customer can place a purchase order at any time [3]. E-commerce is also called as electronic commerce or internet commerce, it refers to buying and selling of goods and services through the mode of internet and transfer of money through online platform and data to execute these transactions [4]. Even small, medium Kirana shops are going towards the online selling due to huge demand, and they are doing it by creating their own website or joining a different platform like Amazon, Flipkart, Grofers and other e-commerce industry to increase the sales and fulfil the demand of the customers. [5]. This no-nonsense method of developing an e-commerce website can be easily replicated and followed in developing e-commerce websites in the developing and

underdeveloped countries where computing resources are scarce and expensive because of their socio-economic condition [6]. Thus, most businesses have made successful transitions into online operations successfully—however, the impact of the pandemic is not likely to be limited only to the business operations. Consumers who live through a pandemic might be changed, and the changes can be long-lasting even after the pandemic passes. [7]. The ecommerce website has been identified having the significant impact on business activities in particular solving the geographical problem for islanded countries like Indonesia. Again, website is identified as a crucial marketing tool [8]. A good, well-designed website is easy to-use and has functions that guide users to take the desired action. From marketing perspective, the desired action is a conversion. Websites should intuitively support this business objective [9]. Web designs which are liked and Website compositions which are preferred and increased in value by target market and customers are generally the consequence of consistent PSD change and backward basic considering [10]. Pleasing visuals are important because they create first impressions which result in a desire to explore further [11]. Any new IT system has to be designed to allow users to easily locate the functions they require.[12]. Most necessary things for a website is selecting a programming language. Mostly web design using HTML and CSS. For web designing not necessary high level knowledge of HTML [13]. Xampp Provide us a perfect outlook of website of a local server from which we see performed approach on one local server [14]. The objective of this project is to develop the online shopping android app and integrate the App with the Prestashop e-commerce Shopping Cart software running on XAMPP Server and connect it to the MySQL database [15].

Accordingly, the study theorizes that PEOU(perceived ease of use) directly affects IT adoption only when the primary task for which the IT is deployed is directly associated with intrinsic IT characteristics, such as when the task itself is an integral part of an IT interface [16]. Certain unique attributes of the E-commerce industry in India such as cash on delivery mode of payment and direct imports that lower costs considerably are probably going to bring about a speedy growth in this industry in years to come [17].

#### **4 Use Case Diagram**

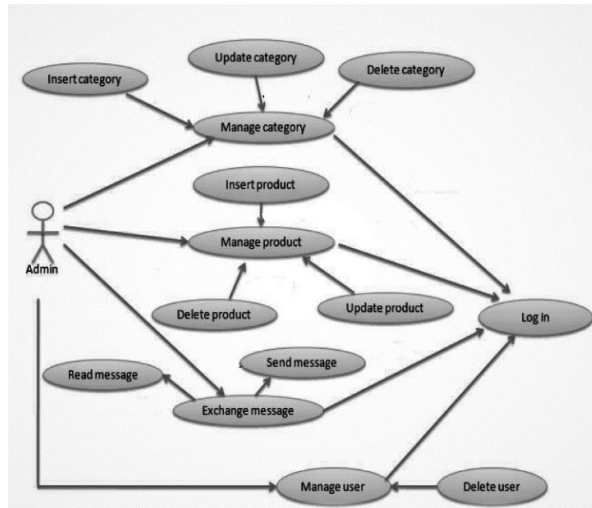


Fig. 1. Use Case Diagram for the Admin



Fig. 2. Use Case Diagram for the User

## 5 Project Work

We have managed to build a website through Open source code, with our primary goal being replication and scalability. In today's scenario where we are seeing

more and more business shutting down because of the ensuing lockdowns and they not being able to retain customers

Our goal was simple:

- Create an e-store that can be easily replicated
- Scalability should be easy
- Easy to use for both the business owner, aka the vendor, and the end-user
- Intuitive social interaction, basically guiding the customer at every step

## 6 Proposed Work

Design the prototype website, and launch it in the alpha stage to a small group of volunteers. Get feedback regarding it and work on it. The website we've built from the ground up to be easily replicable and easily scalable. This website in its entirety can be duplicated and put to use in different cities for different e-stores via other vendors, respectively.

The two things that would fundamentally change are

- The URL (obviously also where each website is stored would differ as each one would be its entity, take it like we make a car, and that car is sold in different cities by different vendors, the car type remains same but each vendor gets their vehicle for their city)
- Secondly, the inventory or the vendor, which is entirely on the more accessible side

The first change regarding the URL when bringing the store to different cities will require a different URL each time. The suggestion from our end would be "EStore-CITYNAME.com"

Each vendor can adopt this in their city. This will help in two ways, firstly uniformity to the website's multiple replications and more reach as it would be more recognizable than if we choose to name them after the vendor's shop or something else.

When we discuss this, we hypothesize that this would be a single vendor setup, thus one vendor for each city. This removes the complications that arrive with a multi-vendor e-commerce store.

Complications of Multi-Vendor E-commerce store for a city to city basis:

We need to understand that when we refer to the complications of a multi-vendor website, we are referring to the difficulty in the replication of such a website and the intricacies of implementing such stores for cities meaning a low customer base

- Multi-vendor means some vendor will try to undercut the prices of another vendor to try and sell more due to the pandemic; not only does this give bad faith, but it also creates a dangerous precedent where one who cuts the price most sells most, which in the long runs hurt the customer themselves as manipulation
- Since the website would work in a single city/town, multi-vendors in that small targeted region would create conflict as same products, at same prices would look like a cluster making it more challenging for the customer rather than easing their experience
- Commission fees would run high for individual vendors as maintain a multi-vendor platform would be much more complex than a single vendor store

Now that we have discussed complications of a multi-vendor store, we also need to pay attention to the benefits of a single vendor e-store for a city/town-

- One vendor for all grocery needs ensures no manipulation
- Inventory Management would be a breeze because of the simple UI built by us
- Getting products from a single vendor also ensures that if there are issues with the products, they can be quickly resolved, and the trust of the customers will build rapidly as it would a single vendor who they might even know locally

How does this help our work? Well, a single vendor platform is not only easy to deploy and maintain but also very easy to replicate. At least the platform we have built is easy to replicate as it has been built from the ground up with the same goal. The deployment also takes a simple set of steps that anyone with basic knowledge of computers could implement.

This ensures there are no huge costs in maintaining the website from the vendors' end as they already got to care about the inventory and delivery itself. Making that also easier, our website has a graphical user interface for all three major components – Admin (or vendor end), User End, and the Delivery End.

Vendors can easily manage the inventory and keep track of the orders through the built-in functions of the website.

When the Covid-19 pandemic hit, many businesses shut down because not all could upscale or adapt quickly to the e-store model. This gives them a fighting chance.

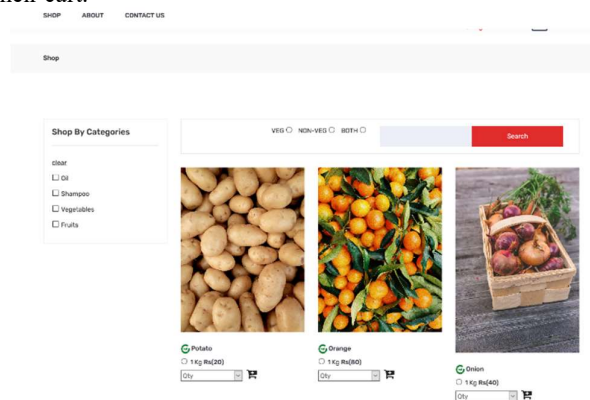
Not only this, but our website also provides the user of that area more freedom to get their groceries and essentials in the pandemic as they order from the comfort of their home.

Benefits include-

- >Trusted vendor(local shop)
- >Reasonable prices as they would be the same as the local market
- >Fast Delivery Time since each website would cater to their respective cities only
- >Low delivery costs
- >Keeps the customer protected as they avoid going out
- >Easy to use UI, which is both interactive and intuitive, guiding the users every step of the process till the end
- >Payment modes include COD, and other online methods (Since it is grocery from the local area, most would likely prefer COD thus available)

## 7 Design

User landing Page - This is for the customer who will be purchasing the product. Customer can navigate through whole website and even add the product to the cart. The actual shop landing page where the items are listed and the user can put them into their cart.



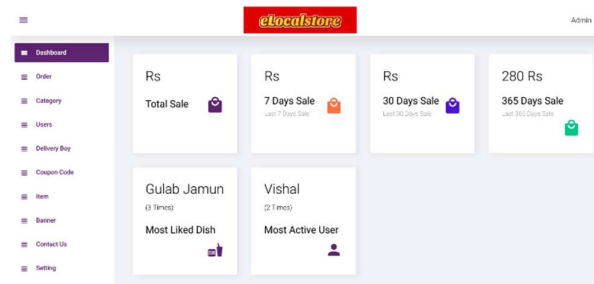
**Fig. 3.** User Landing/Items Page

Admin Page - Admin Website: This is for the owner of the website. On the admin end, we have made the website to be very easily usable for anyone. This can be seen in the easy to navigate Manage page from where the admin can go to different places including adding inventory and managing orders.

Function:

- he can add/delete/edit products to the website for sale.
- he can also change banner of front website.
- he can view overview of his sale.
- he can see the delivery system status





**Fig. 4.** Admin Manage Page

Our priority which was to make it easily accessible can be seen put to work here. One example of it is the items inventory management page shown as below.

Our goal of it being scalable and even replicable easily is visible here as the same can be used by any version of the website. All the Store owner has to do is update the items manually.

## 8 Benefits

Our major goal with this project was to create a website which could be a prototype which is easily formulated and expanded for different local stores across different cities. The major benefits for having such an E Local store for any business vendors are-

- It's an expanding sector thus less competition
- Adapting to the current world we are living in
- Governments are supporting such initiatives because of the Digital India Movement.
- Expanded customer base as the local business gets much more exposure

This local store aims to be scaled and thus bring in more potential business online bringing about an alternative marketplace. Not only this, the slogan "Make in India" and the movement will be strengthened as it will bring about options for customers who want to shop local to help and support their local businesses

## 9 Roadblocks

While we discuss how we want our E Store to pan out in each city, we do need to understand the roadblocks in our way and find solutions to them.

(i) Selection of the local store whose business would be transferred online –

This is a problem which needs to be tackled in cases of bigger towns and cities as smaller towns usually have very limited no of stores which can fulfill all grocery and e store needs. Therefore for a bigger region, we need to have a set of standards which would need to be met by the stores to be able to shift their business online. When that is met, further selection can be done by our team based on the better reach amongst them.

(ii) Website Penetration/Adoption – How will we be able to penetrate the daily user base?

This is an advertising issue best left to them. One suggestion though would be taking the help of local governments in spreading the message of staying inside and shifting to online shopping for the masses via including the initiative of Digital India Movement.

(iii) Branding – This issue boils down to the URL and how the stores might want the URL to be their shop name.

This can be solved by exclusively outlining that our min priority is simplicity and how “estore-cityname.com” would be much more recognizable and beneficial for the particular shops rather than them having their shop name as the URL phase.

The purpose of the proof is to check for typesetting or conversion errors and the completeness and accuracy of the text, tables and figures. Substantial changes in content, e.g., new results, corrected values, title and authorship, are not possible and cannot be processed.

## Conclusion

When starting out with the idea of creating an E Local Store, we definitely had not anticipated the problems we were about to encounter. Additionally the Covid-19 problem brought about expedience in our work because we wanted to get this web store running as soon as possible.

Using HTML, CSS, MYSQL and JavaScript, XAMPP server we created a website close to what we wanted. Furthermore we are bringing about changes in the website as we use and deem it fit. We used local hosting currently and once the website is full-fledged and running, we will host it on some hosting service. Currently our best aim is to do peer surveys and improve the UX and UI so that it becomes more interactive and easy to use.

We will also keep working towards bringing about more payment systems in the same as we believe the more payment systems, the more usable the website is.

## References

1. Ambikapathy, B., & Krishnamurthy, K. (2020). Mathematical modelling to assess the impact of lockdown on COVID-19 transmission in India: Model development and validation. *JMIR public health and surveillance*, 6(2), e19368.
2. Narayanan, S., & Saha, S. (2020). Urban food markets and the lockdown in India. Available at SSRN 3599102.
3. Khan, A. G. (2016). Electronic commerce: A study on benefits and challenges in an emerging economy. *Global Journal of Management and Business Research*.
4. Chaudhary, H. (2020). Analyzing the paradigm shift of consumer behavior towards E-Commerce during pandemic lockdown. Available at SSRN 3664668.
5. Chaudhary, H. (2020). Analyzing the paradigm shift of consumer behavior towards E-Commerce during pandemic lockdown. Available at SSRN 3664668.
6. Developing an E-Commerce Website Syed Emdad Ullah, Tania Alauddin and Hasan U. Zaman Department of Electrical and Computer Engineering North South University Dhaka, Bangladesh em5\_11@hotmail.com, taniaalauddin@gmail.com, hasan.zaman@northsouth.edu.
7. Kim, R. Y. (2020). The impact of COVID-19 on consumers: Preparing for digital sales. *IEEE Engineering Management Review*, 48(3), 212-218.
8. Pujani, V. (2011). Use of ecommerce websites in developing countries. *World Academy of Science, Engineering and Technology*, 78, 790-795.
9. Ritonummi, S. (2020). User experience on an ecommerce website: a case study.
10. Hasan, J. (2018). Designing and Developing E-Commerce Website with Magento.
11. Jennings, M. (2000, April). Theory and models for creating engaging and immersive ecommerce websites. In *Proceedings of the 2000 ACM SIGCPR conference on Computer personnel research* (pp. 77-85).
12. Taylor, M. J., McWilliam, J., Forsyth, H., & Wade, S. (2002). Methodologies and website development: a survey of practice. *Information and software technology*, 44(6), 381-391.
13. Kumari, P., & Nandal, R. (2017). A Research Paper OnWebsite Development Optimization Using Xampp/PHP. *International Journal of Advanced Research in Computer Science*, 8(5).
14. Kumari, P., & Nandal, R. (2017). A Research Paper OnWebsite Development Optimization Using Xampp/PHP. *International Journal of Advanced Research in Computer Science*, 8(5).
15. Jagtap, S. S., & Hanchate, D. B. (2017). Development of Android based mobile app for prestashop eCommerce shopping cart (ALC). *International Research Journal of Engineering and Technology (IRJET)*, 4(07), 2249-2254.
16. Gefen, D., & Straub, D. W. (2000). The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the association for Information Systems*, 1(1), 8.
17. Mitra, A. (2013). E-commerce in India-A Review. *International journal of marketing, financial services & management research*, 2(2), 126-132.
18. Kumari, P., & Nandal, R. (2017). A Research Paper OnWebsite Development Optimization Using Xampp/PHP. *International Journal of Advanced Research in Computer Science*, 8(5).