



## Project and Professionalism (6CS007)

### Milestone 4 Product Recommendation System

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## 1. Introduction

Product Management system is a web e-commerce site where user can purchase goods and products from the website. The internet contains a vast collection of unstructured data which makes it very hard to search a valuable information. Recommendation system can be further classified into two groups. Firstly, content-based filtering focuses solely on the features of the objects and offer suggestions based on their similarity. Here we have data of what the user previously like and watched/ listened. The system comprises a big database called Item Profile, which contains the items to be recommended as well as their attributes. It is also described as commercial transactions like online payment for goods or services that the customer has purchased along with that we have a recommendation model which predicts the product for the user to buy from their previous products using time-series LSTM algorithm. There are primarily four main types of tables that are used to describe all interactions between clients and software. User data will be saved in separate tables where users may register and login, and the data will be managed by the administrator. Everything aside there are many things to consider when we deploy website on the web. Whenever a big number of consumers utilize a website's resources, various issues must be addressed in order to protect the user's data and avoid legal action against the company. Ethical considerations, legal implications, safety concerns, and social concerns must all be addressed. The ethics of the website's operators, who will have access to all of the clients' information.

## 2. Social Impact

As we human, we all are comprised of living in a colony and always colonized helping one another in needs. So when we work we don't only think the consequences that we bring forward to ourselves but to the society we live in as well. What it might bring on the long run, all the goods and bad. E-commerce has been a new topic on our society but trade for money and goods have been there for centuries in our society. So why does online business make that any different in the context of social impact.

Firstly the costs of starting a business are considerably reduced thanks to e-commerce. Instead of building or renting a physical store, all you need for an online store is a functional website or social media. For budding entrepreneurs, this makes the process of beginning a business much less

intimidating. Furthermore, because it is now simpler than ever for anybody to start a business online, there is a lot more competition out there, which stimulates digital store growth.

(Commerce, 2020)

Because online firms have lower operating costs, the markup on their products is often much lower, as they may sell items for less and still break even. Furthermore, buyers can simply compare identical things from numerous internet retailers to find the best offer, resulting in competitive pricing as well as operating as an online store can help reduce pollution as there's less expenditure than at a real store and we don't have crowds on the roads.

Consumers may shop for goods and services online at any time of day or night, making society more efficient and productive. Small businesses may reach a broader spectrum of customers through e-commerce than they could with a physical store.

## 2.1. Beneficial Impact

### 2.1.1. Advantages of e-Commerce to Customers

- Add information about the virtual display to websites that have online catalogs.
- Price reductions as a result of contests (coupons and offers).
- Availability and convenience 24 / 7.
- The global market for the product's buying or resale.
- Ensure the safety of commercial transactions
- A wide variety of possibilities
- If the product is of poor quality, return policies are available.
- Consumes less time and easy to read reviews.

### 2.1.2. Advantages of e-Commerce to Business

- Expanding customer base to increase potential market share.
- Safe and rapid business interactions.
- Sales are accessible anytime.
- Broadening the company's reach.
- Oversight of the main warehouse.
- Cost-cutting for employees.

## 2.2.Detrimental Impact

### 2.2.1. Disadvantages of e-Commerce for Customers.

- Inability to inspect items in person.
- Privacy and security of online purchasing
- Credit card fraud
- Product delivery delays
- Assured/assured/assured/assured/a
- High-quality
- There isn't enough face-to-face engagement.
- On the internet, there is a lot of fraud.

### 2.2.2. Disadvantages of e-Commerce to Business

- Regularly updating network infrastructure
- Periodic website maintenance
- Additional costs and expertise for e-commerce infrastructure
- The readiness of the location
- Customer loyalty is crucial to maintain and train.
- There are a lot of logistical needs.
- Credit card and security concerns
- Orders that aren't legitimate
- Adequate internet services are available.

Case Study: Amazon, the world's largest marketplace and an online juggernaut with a \$1 trillion market valuation, has changed the way that people shop. Its efforts impact job creation, investment, and even inflation. Due to the group's global scale, its stakeholders have a broad variety of interests. We can all take amazon as an example how it has grown to be vast web service where many people get employed and is available worldwide for people to get their product from one place to another. Big companies like also has a large interest in real estate investor and stock market brokers. (RESEARCH, 1999)

### 3. Ethical Impact

The term "ethics" refers to a collection of systematic and critical ideologies that examine how people act. While understanding how individuals act and establish their own worth is vital, ethics also requires researching and examining a range of underlying ideas and traditions that serve as the foundation for judging specific standards or behaviors. Ethics creates the fundamental principles for business, ensuring that businesses, groups, and even individuals adhere to the rules. Administrators of web applications and other supervisors must be responsible and professional. This component is concerned with the morale and accountability of the development and its operations. The marketing director should not flood the customer's inbox with unnecessary promotional or advertising emails. If the developer fails to deliver elevated software, it may cause issues for many residents, such as financial system security, transportation security, and so on. Our system should not breach our user's privacy and take user data and sell it to other corporate business. As it is ethically not approved and may cause legal action to our business. Scam and clickbait product should not be advertised as it creates a bad reputation of business and sets up a false assumption of a fake website to lure consumers to give their credit card number or other personal information. These are some of the many rule to be followed so that the business goes smoothly. (Nguyen, 2016)

Case study: amazon valuation of \$1 trillion and the largest marketplace on earth has not only tackled criticism for far more than just its tax evasion. Climate change, habitats & resources pollutions and toxics, arms & military supply, human rights, worker's rights, supply chain management and anti-social finance are some ethical issues faced by the company. But amazon anticipates to make partial of its cargoes carbon neutral by 2030 i.e. Several Guardian articles published in 2018 revealed issues with Amazon's facilities. One from July of that year described Amazon employees "being treated in ways that leave them homeless, unable to work, or without money as a result of workplace mistakes." Amazon's warehouses were named one of the most dangerous places to work in the United States in April 2018. (ethicalconsumer.org, 2022)

## 4. Legal Impact

The legal issue is one of the most important to keep in mind when designing a website, programmers should take into account the legal concerns that may arise as a result of the design, such as data and information copyright issues, trademark issues, domain name-related issues, and so on. With the advancement and growing usage of internet media, online business is quickly becoming a popular trend. Nowadays most of the new businesses operate online and engage in e-commerce. However, being functioning online does not exempt you from legal ramifications. There are a variety of legal difficulties linked with e-commerce firms. And if these difficulties are not addressed in a timely manner, they can cause major consequences for your company.

If you solely do business over the internet, not being incorporated is a huge concern. Any activity involving the purchase or sale of your items would be illegal. You will be unable to enforce your rights in the case of fraud or corruption. If your firm is not incorporated, it has no protection.

Failure to safeguard your brand is one of the most significant legal issues in the world of e-commerce. A copyright is your company's logo and insignia that acts as an online representation of your business. If you don't protect your trademark, it won't be long before you find out its being used without your permission. Conquest of your company's or your company's trademarks may become a major legal issue, limiting the expansion of your firm. There are several royalty-free websites where you may view their material and images online. These websites might be utilized to produce online content for your company's website. Even if you utilize protected information mistakenly, the other party has the right to sue your company. This might be the end of your online business. Written policies like returning product should be concerned with lawyers and agreement should be signed between user and the owners.

If your company fails to offer a clear and thorough explanation of the goods, pricing, and purchasing information. When it comes to internet enterprises, confidentiality is a key subject that may cause matters for both the company and its consumers. Consumers interchange info with companies online, and they want the sellers to keep it private. (eurologo, July 25, 2016)

Case Study: "In 2019, more than 15 billion data records were exposed a 284% increase from the year prior" according to Norton cybersecurity firm. In Australia due to 40% of transaction going off shore and due to companies not following (PCRA) which concerns with the reliability of the information provided by the teams in the Banking department. ACL was created which governs all e-commerce transactions in Australia i.e. when the purchaser will obtain merchandises and

other information related to exchange and refunds, the ACL can impose penalties on your business. (CEO, 2011)

## 5. Security

Data security is becoming increasingly crucial in the world of e-commerce. An online firm should implement the bare minimum of anti-virus, firewall, encryption, and other data protection safeguards. When vendors provide outsiders access to their customers' information, they are violating their confidentiality obligations. E-commerce is a concept. Security entails ensuring that any information given by clients online stays unmodified. This will go a long way toward securing clients' credit card and bank information. Client logins and payment card PINs are examples of conventional solutions. Lack of privacy and security on e-commerce website may lead to malicious alterations to websites, Theft of clients' data, Damages to networks of computers etc. Financial, market share, and reputational losses stem from these challenges. Clients may even pursue criminal charges against the company. Hackers can infect computers and computers in a variety of methods, including the use of worms, viruses, Trojan horses, and other malicious software. Also there is the complexity in online transaction when the servers are down or users use fake credentials.

Security measures can be used to protect our business from online fraud. It is beneficial to use many security layers to strengthen your security. For example ubiquitous Content Delivery Network (CDN) helps prevent attacks and contagious inbound traffic. We can add an extra security layer, such as Multi-Factor Authentication, if necessary. When using a transaction API we should be aware to have a SSL certificates are vital because they ensure that sensitive data is only sent to the appropriate recipient. If there is no SSL certificate encryption, data maybe breached in between. Using correct documentation on both the API and the system should be mandatory. Use great firewalls to restrict untrusted connections and control the inflow and outflow of website traffic. They should have selective permeability, enabling only reliable traffic to flow through. Alongside that we can also use anti-malware system to protect our data if it not cloud based. (Varghese, February 3, 2022)

Case study: According to an article by VINCENT MANANCOURT “Insiders warn that Amazon's security shortfalls expose users' data to potential breaches, theft and exploitation. Former high-



level employees say they were sidelined, dismissed or pushed out of the company. One EU-based employee is fighting the terms of their departure from Amazon through European courts.” Amazon has struggled to reinforcement vulnerabilities in its systems. Fragile controls mean the corporation may not even sense a hack. An internal Amazon memo deemed there was a "very high" possibility of critical financial loss or reputational damage because of the company's "inability to identify adversarial events".

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