

The Fundamental Components of Online Marketplaces

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Just as the internet has become readily available throughout the world, online delivery has quickly risen as an integral part of many people's lives. Today, every type of product from electronics to food can be delivered to any corner of the world, for billions of people around the world. However, the construction of such online marketplaces wasn't able to be done immediately within a few years. Companies had to solve difficult problems regarding the scalability of their systems in order for online delivery services to reach where it is today. To demonstrate just how critical modern solutions are in building the components of an online marketplace, I tackled developing my own website for an existing startup idea with the same technologies that companies use today.

During the development of this project, I found that newer languages like React play a critical role in building a modern website's frontend, as they have the functionality to provide a dynamic user interface, while also allowing developers to maintain large chunks of frontend code more easily. This is essential for services like a marketplace that requires a large range of interfaces for each item, and having individual code for each possible product is unfeasible. The combination of open source libraries like Bootstrap and Node plays a similar role, as websites can actively import existing code for the visual styling and logic behind a website. Instead of reinventing the same interface objects that other developers have already refined, modern interfaces can easily integrate existing code from hundreds of other developers into their own websites.

On the backend, I similarly found that current technology allows anyone to utilize databases, even if they have no complex knowledge on how database systems work. Free relational databases like SQLITE were readily available with documentation and a simple API to process data requests. Even hosting websites online can be trivialized with free services like Heroku that setup DNS hosting for you, compared to having to go through lower-level setup through AWS.

Modern development has progressed to allow the construction of massive scaling online services that marketplaces that provide services around the world. These new solutions have advanced to such an extent that we could successfully set up a functional and scalable website in less than a month.