

## **My Final Solution:**

Frontend: ReactJS + React Bootstrap

Backend: NodeJS

CICD: CircleCI + Heroku

Database: MongoDB

I am building the frontend of my web application with ReactJS. This decision was made based on three criteria. First, the checkout app is a light-weight app. Angular is obviously not a good option here. Second, the app is extendable, which means we can keep adding new features after the product is published. Since ReactJS is very popular and it has a very large community, it has lots of libraries available, which helps in adding the features. Third, I am familiar with ReactJS. The previous knowledge reduces the learning time that I will need to spend in this project, which would also decrease product development time. I also choose React Bootstrap as the styling framework. Since the website needs to be responsive, react bootstrap can be handy. Also, the main advantage is the pre-defined elements and the grid setting.

For the backend, I am using NodeJS and express to build my backend. It runs Javascript, so I can use the same language on server and client, and even share some code between them (e.g. for form validation, or to render views at either end.) The single-threaded event-driven system is fast even when handling lots of requests at once, and also simple, compared to traditional multi-threaded Java or ROR frameworks. Node.js has become the standard environment in which to run JavaScript-related tools and other web-related tools, including task runners, minifiers, beautifiers, linters, preprocessors, bundlers and analytics processors. It is quite suitable for prototyping, agile development and rapid product iteration.