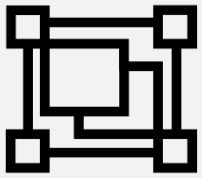
PICKㅜT

# Software Engineering TEAM 4.


Kim Woo Kyung [Team Leader, Backend]
Moon Jae Wan [Machine Learning]
Ju Hye Won [Frontend]
Seong Chang Min [Crawling]

# 01. Overall target System



## Integration

Provide ‘single’ shopping cart for shopping malls.

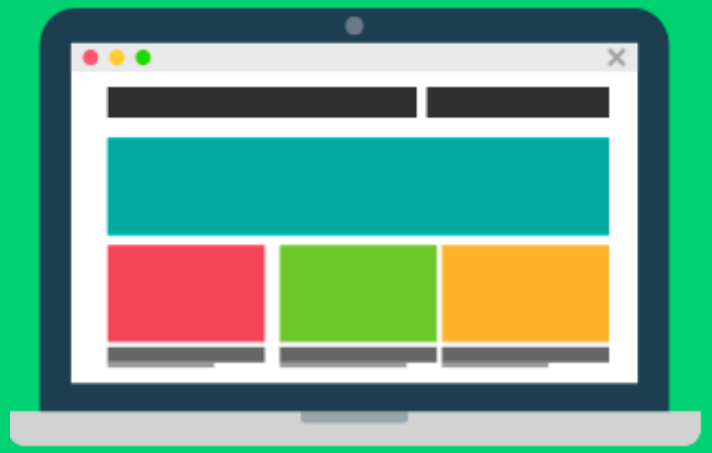
## Convenience

Easy accessibility, adding, deleting and modifying.

## Analysis

Use machine learning tool to provide black & white reviews.

# 02. Overall system architecture



## Frontend

React

## Backend

Django

# Frontend

Client

Router

Local Storage

Login/ Register

Cart

Review

Request

Axios

# Backend

Picket Server

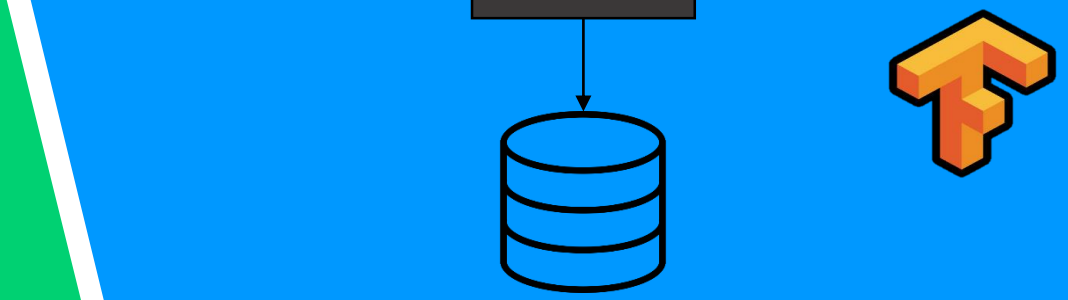
Viewer

Authenticator

QueryHandler

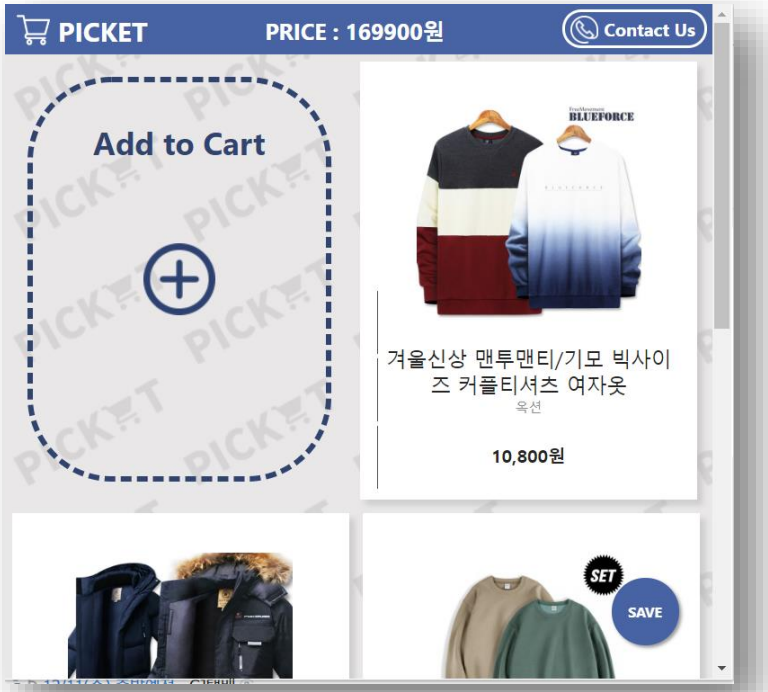
Parserer

Model

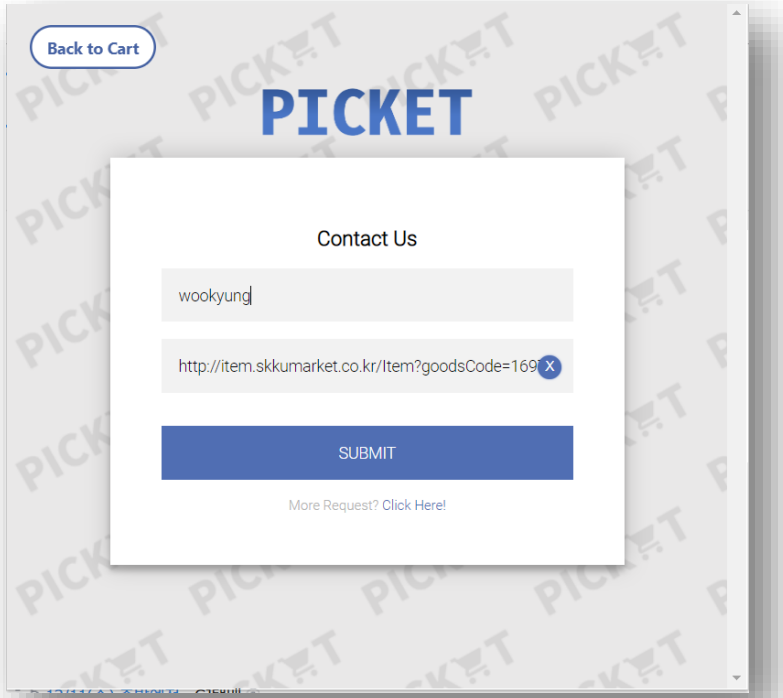


# 03. Main features

## Shopping cart

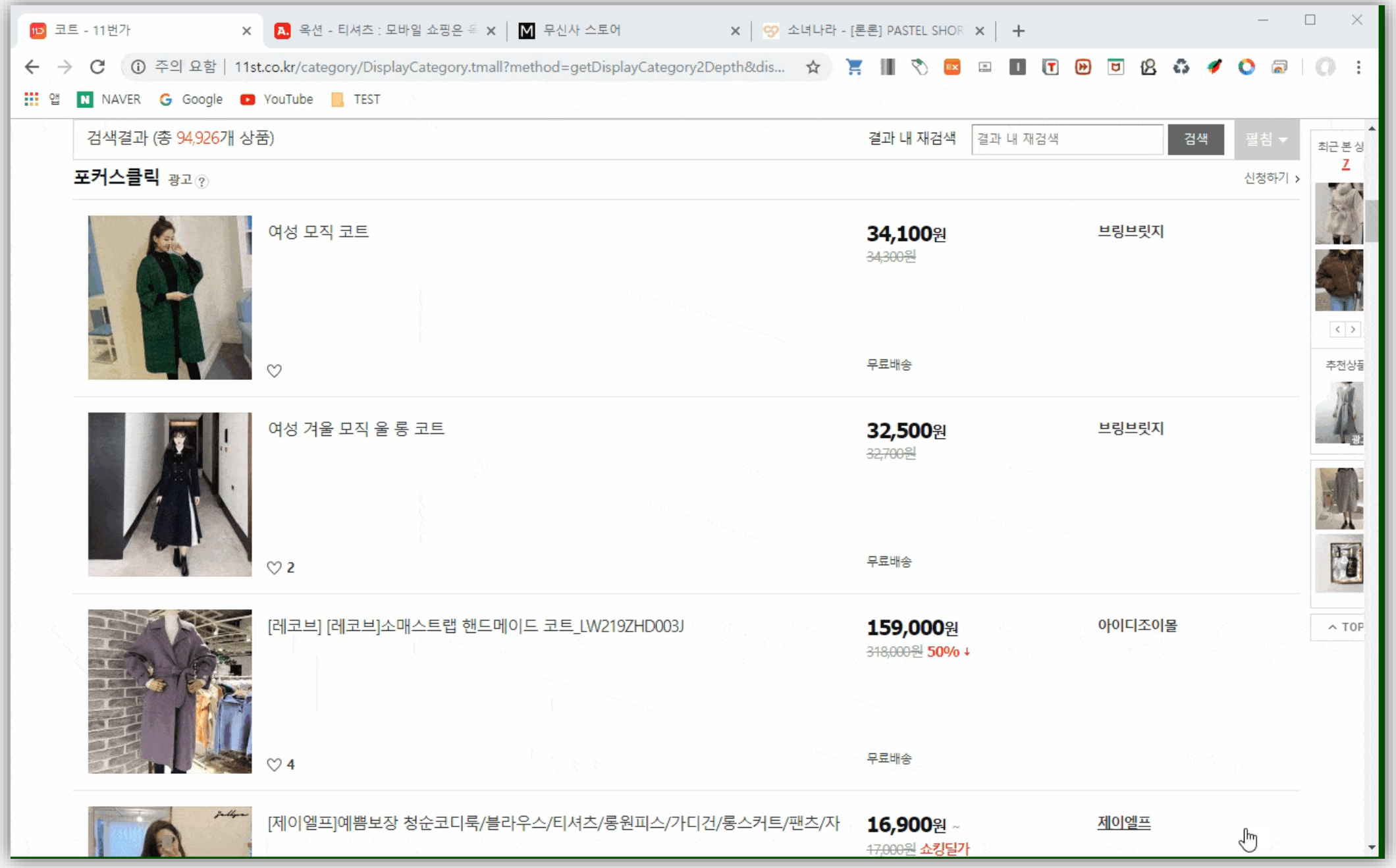



## User Request




## Provide Reviews

# 03. Main features – Demo



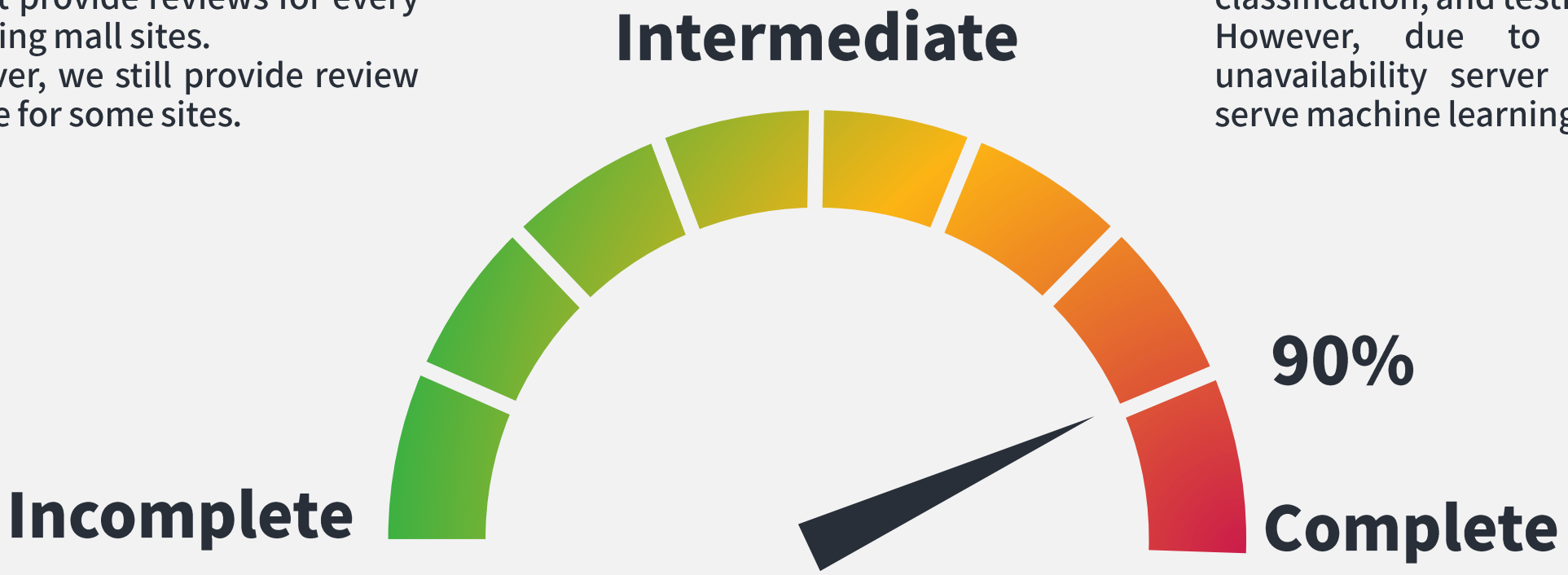
# 04. System completeness

## A. Review parsing

Due to our lack of capacity for parsing the web pages, we cannot provide reviews for every shopping mall sites.
However, we still provide review service for some sites.

## B. Review Classification

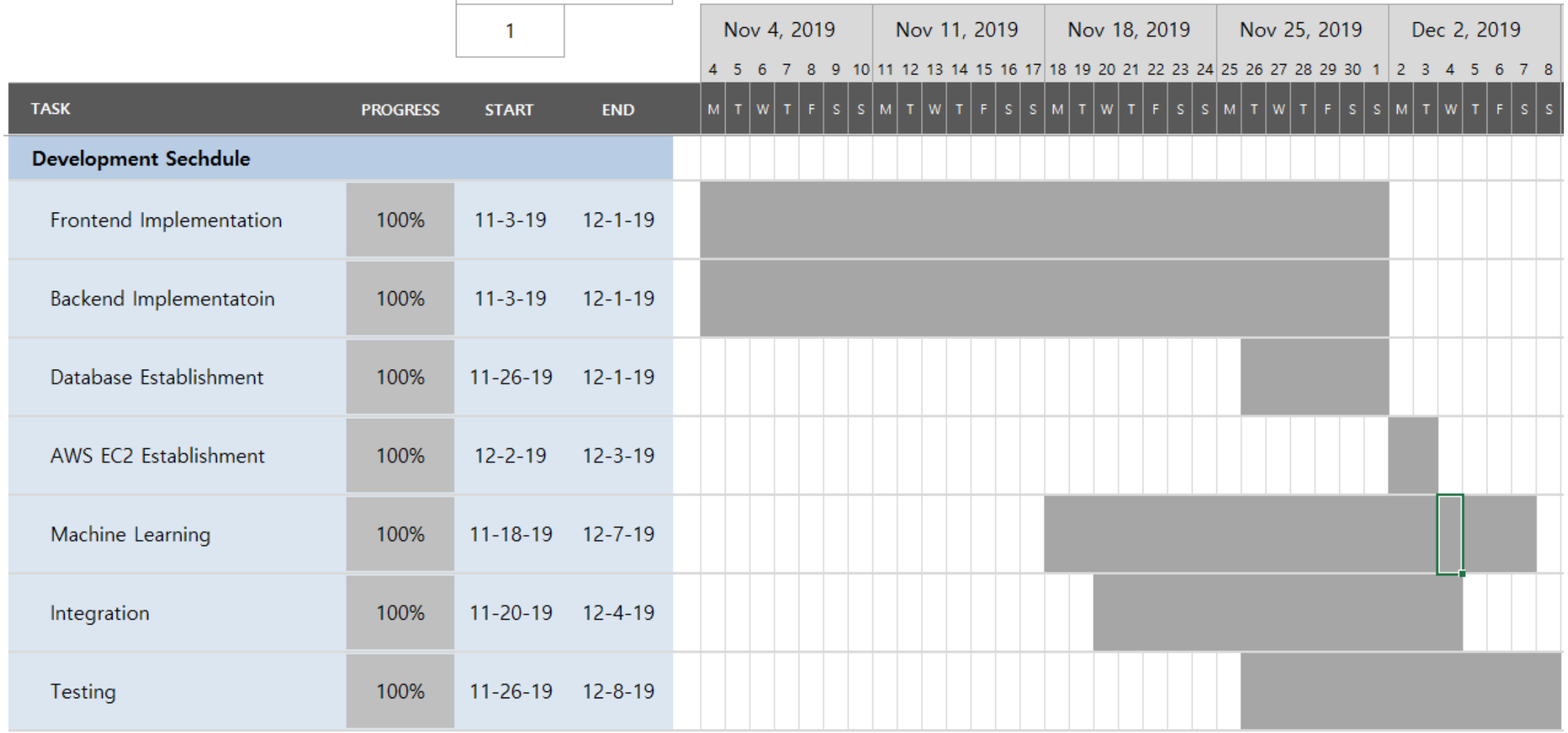
We made all the machine learning model for review classification, and testing too.
However, due to hardware unavailability server could not serve machine learning service.



# 05. Actual development schedule

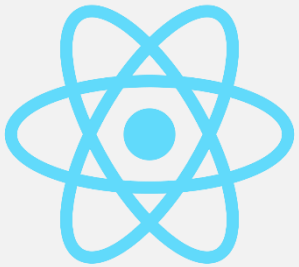
Start Week: Sun, 11-3-2019

1




| TASK | PROGRESS | START | END |
|---|---|---|---|
| **Development Sechdule** | | | |
| Frontend Implementation | 100% | 11-3-19 | 12-1-19 |
| Backend Implementatoin | 100% | 11-3-19 | 12-1-19 |
| Database Establishment | 100% | 11-26-19 | 12-1-19 |
| AWS EC2 Establishment | 100% | 12-2-19 | 12-3-19 |
| Machine Learning | 100% | 11-18-19 | 12-7-19 |
| Integration | 100% | 11-20-19 | 12-4-19 |
| Testing | 100% | 11-26-19 | 12-8-19 |

# 06. Open sources



## React

For fronted framework.

## C.Extension

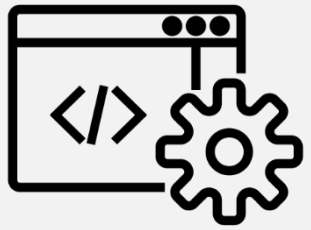
For client accessibility.

## Django

For backend framework.

## Tensorflow

For Machine Learning.



## Libraries

BS4, Selenium, Chronium etc.
For web parsing.

# 07. Risks during project

## RISK

R1. Absence of sustainable server.

R2. Difficulties in review parsing, need dynamic handling.

R3. Some sites block bot to parse.

R4. Because of low-spec server we could not serve whole review service.

## Solution

S1. We used AWS EC2 server .

S2. We find out selenium lib can handle dynamic controls.

S3. We skipped does sites.

# 08. Lessons we learned

Kim Woo Kyung
Team Leader / Backend Developer

“ What I’ve learned as a backend developer, I should have all the knowledge about networking, database, server and also programming itself. I should study some fields by myself, maybe if there was few more people, implementation process could be more faster. However, for me implementing the whole service not the a page code was good experience. And also it was good opportunity to develop my own capability. ”
(우선 백엔드 개발자로써 느꼈던 점은 서버를 개발 하기 서버를 개발하기 위해서는 네트워크, 데이터베이스, 서버관리, 프로그래밍 자체 등 다양한 분야의 지식을 알아야 한다는 점이었습니다. 모르는 분야는 직접 공부하여 개발을 하기도 하여서, 만약 사람이 조금 더 있었다면 더 효율적으로 할 수 있었을 것 같습니다. 처음으로 한 페이지짜리 코딩이 아닌, 하나의 서비스를 개발하는 것 자체가 좋은 경험이었고, 개인적으로 발전할 수 있었던 계가기 되었던 것 같습니다.)

Ju Hye Won
Frontend Developer

“The part of my project was the frontend of the chrome extension. The biggest mission of the project was whether users could use the service called PICKET most conveniently. So I tried to minimize the unnecessary screens and buttons to make the screen intuitively understood by users. Another difficulty was that I used react, one of the JavaScript frameworks, but it was also difficult to develop using the latest version. However, it was very rewarding to overcome these difficulties and implement and complete the features we planned. The best thing about this project was that when I was initially planning and incorporating the ideas, documenting them was the most helpful.In the early days, I wondered whether it would be worthwhile to spend time writing documents, but by writing them, I learned more about my role as well as how the whole system was organized. I was able to proceed without great difficulty.”

# 08. Lessons we learned

Seong Chang Min
Parser Developer

“ I learned about requirements and design specifications, I actually felt a lot of difference. Is this really going to be used? But when I looked at the design specification and coded it, the things to implement were clear and it was easy to communicate with the team. It's a pity that I don't know much about the rest except parsing. ”
(요구명세서와 디자인명세서를 배울 때 사실 괴리감이 들었습니다. 이게 과연 진짜 쓰일까 하는 것 말이죠. 하지만 구현할 때 디자인 명세서를 보면서, 구현해야 할 것이 명백하고 팀원들과 소통하는데 도움이 되었습니다. 제가 맡은 부분이 파싱 부분이라 이 시스템의 다른부분에 대해 자세히 알지 못하는 것은 아쉽습니다.)

Moon Jae Wan
Machine Learning Developer

“I was in charge of machine learning in this project. There were three things I felt when I was building a machine learning subsystem. The first was that it would take a lot of effort to apply technology change to the system. In order to apply the latest ML techniques, I have read a total of 10 papers, to make the current task and the most suitable model. The second was that it took a lot of effort to create data sets that didn't exist. During coworking with the Parser team, we could find improvement direction for the parser. The third is that you cannot determine whether it works well even if you pass the unit test until you test the system environment to deploy it. While the environment used in the development process was in the compute environment where machine learning was studied, the deploying environment for the systems was lower performance than that. Because of this, machine learning took a very long time to operate, making it difficult to use it.”

# Q & A