Proposal

Project name	The Credit Scoring System For university students and rookie in society
Project date	2019. 03. 01 ~ 2019. 05. 16
Team name	PassAbility
Adviser	Professor Shin Young Joo
Sponsor	MG Community Credit Cooperatives

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광운대학교
KwangWoon University

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<tr><td>Budget</td><td colspan="4">4,500,000₩</td></tr>
<tr><td>Adviser</td><td>Name</td><td>Professor
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1. Development background & necessity

A. Development motivation and necessity

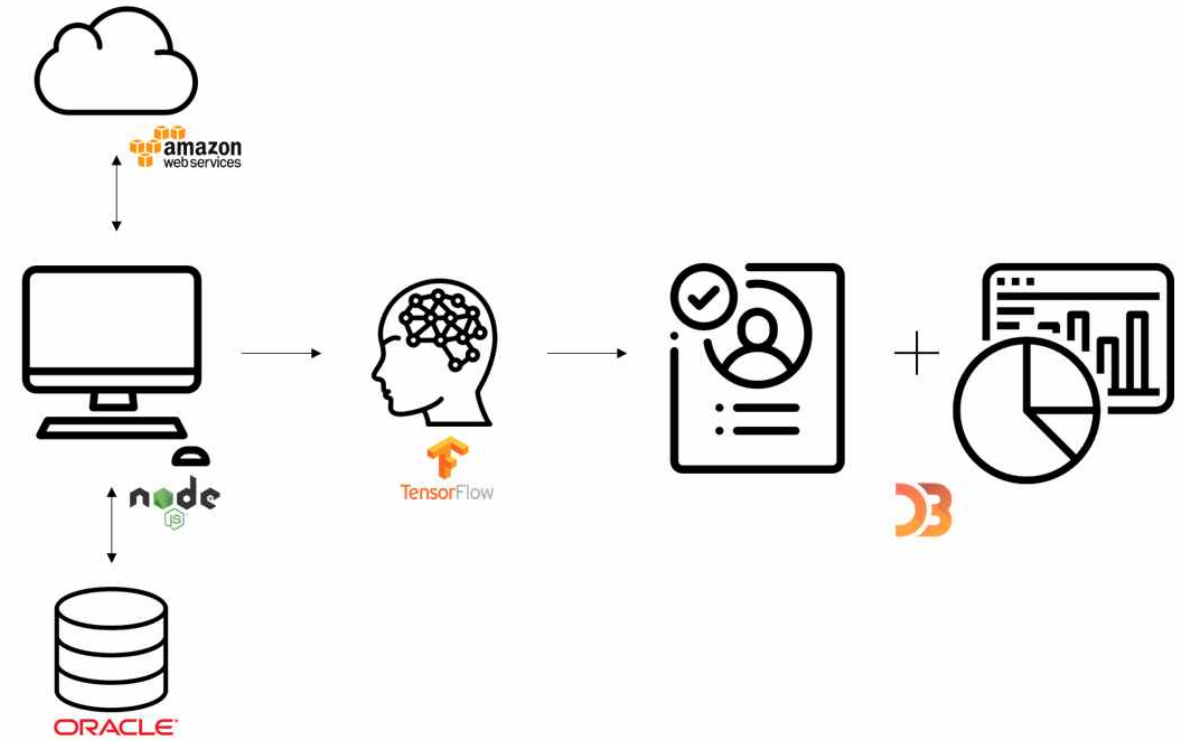
There is the three reason to why we decide on a credit rating system.
First, the problem about the structure of domestic credit evaluation market. We thought it was possible that three companies were monopolizing the credit evaluation market, which couldn't lead to trust in credit worthiness.
Second, in overseas or domestic financial industry interested in machine learning. Additionally we think that it will be possible to design a credit evaluation system.
Finally, this is not the end of this, it has been confirmed that the main customers of the credit rating system are excluded from university students and social rookies, and we think that we should develop a credit evaluation system for university students and social rookies.

B. Differences from other products

Here are some of the differences to other credit rating systems.
The difference is that the main customer base is different from the usual credit rating system and that we add information that reflects in our ratings. We plan to access customer consumption patterns rather than financial information used in existing credit evaluation systems, and to evaluate them based on data on automatic transfer and overdue records of communication expenses.

2. Development content & goals

A. Development content



Overall system configuration diagram. We will construct the collected data into a database, stored it on a web server, designed the machine learning model using this data, and put the output value on a web page so that the whole system was configured for customers to check.

B. Quantitative goals

- **Error range objective**

The goal is to secure a margin of error of plus or minus 50, as the credit rating will be graded on a scale of 100 points and divided into grades 1 to 10.

- **Performance test method**

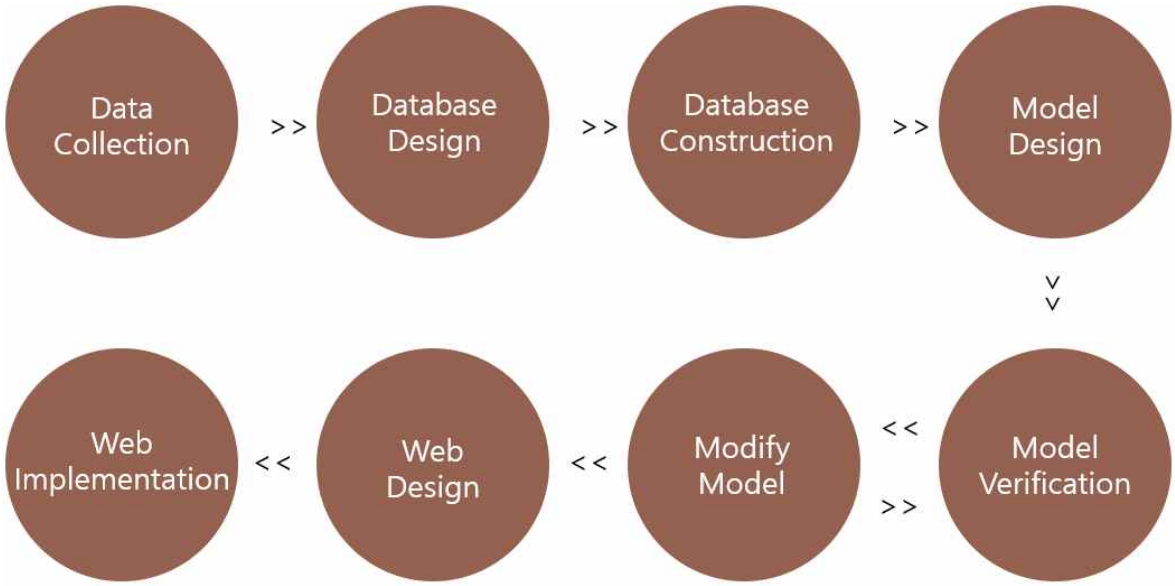
The measurement will be made by directly measuring credit scores on input data and then entering the data into the model to compare the results.

- **How to obtain accuracy**

It cross-validates Randomforest, XGboost and LightGBM in terms of accuracy and speed, along with ensemble techniques. And since the degree to which each feature currently applied contributes to accuracy varies, if the accuracy is not obtained as required through algorithm cross-verification and ensemble technique, the accuracy will be further confirmed by modifying the feature.

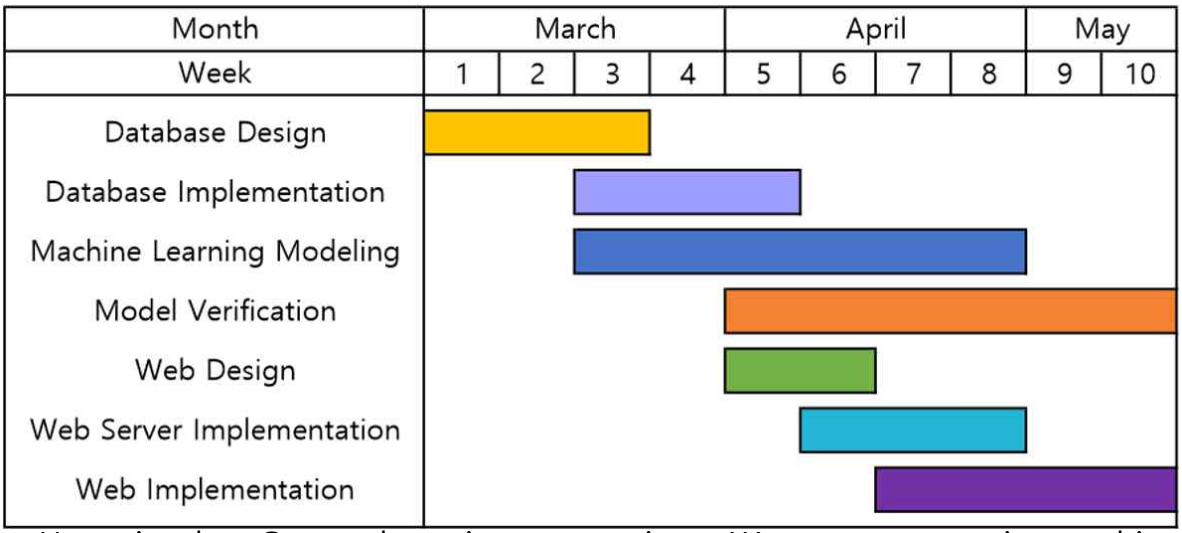
3. Development strategy & schedule

A. Development strategy

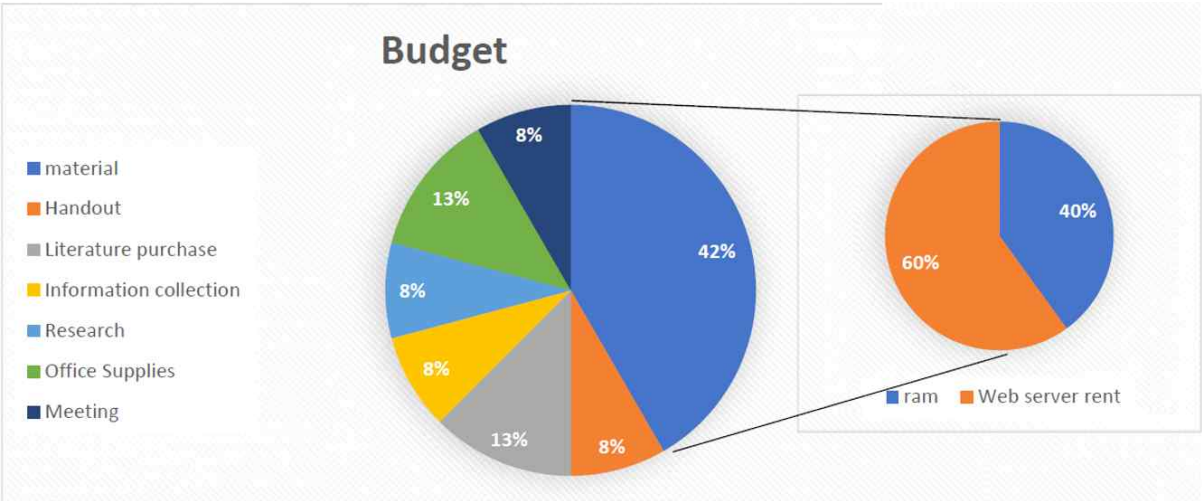


First, we collect the data for university student and society rookie and construct the database that data. Second we design the machine learning model. Third verification the model and modify the model in iterately. When we end of the machine learning we design the web page and implementation. Using program is the Oracle Database, Tensorflow, Spring framework. Oracle Database is database construct, Tensorflow is machine learning, and Spring framework in web implementation.

B. Development schedule and budget



Here is the Gantt chart in our project. We concentrate in machine learning has very long time. We get the time in model modifying and web implementation at the same time.



This is the Budget graph. About 42% is used for material cost. More specifically, 40% is ram and 60% is web server rent. About 13% is used for literature purchase and office supplies. About 8% is used for handout, information collection, research and meeting.

4. Utilization plan & expected effect

A. Utilization plan

First, People without credit can also make financial products available with our credit evaluation. Because we evaluation with present financial situation and society credit.

Second, Financial consulting based on current financial situation with our data. Finally, Financial product recommendation using bank's own credit rating.

B. Expected effect

In customer perspective, financial products become easier to use and no disadvantage without credit history. And bank perspective, cost to credit evaluation company can reduced and it is possible to attract mre customers compared to credit evaluation.