E-Commerce Platform For Retailers With Sales Prediction

Group No. 05

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ABSTRACT

Data mining is a strong new technology with great potential to help companies to focus on the most important information in their data warehouses. This will help in marketing and sales.

The proposed system uses clustering and market basket analysis types of algorithm with modification which will make algorithm more efficient. The analyst can perform data mining and extraction and finally conclude the result and make appropriate decision for company.

INTRODUCTION

- Data mining is the process of finding out useful patterns and correlations by filtering through a large amount of data.

- Most of the retailers use traditional methods. Therefore, their company's efficiency and profits are not too satisfactory.

- According to the predicting results, the company can handle their imports optimizing the available resources; storage, time, money. Therefore these reports would benefit the company to improve their incomes.

OBJECTIVE

- To provide a platform for retailers to showcase their products to a wider audience.

- To help retailers analyze their product demands and calculate the finances in order to avoid losses.

- To help them in various activities like pre-ordering, re-ordering or discarding the product.

LITERATURE REVIEW

Paper Title: Performance prediction using modified techniques for retail.

Authors: Ezhilarasan C, Ramani S

Publication details : Published on IEEE 2016

Findings:

- Performance evaluation is based on the website traffic and conversion rates

- These attributes are given as cluster inputs and evaluation is done using Fuzzy logic

Advantages:

- Fuzzy logic is efficient in prediction and sales analysis for particular clusters

- Project can be hosted in any domain and it can used in real-time environment

Disadvantages:

- Small amount of data cannot be computed

- Precise transaction data is required everytime to predict the performance

LITERATURE REVIEW

Paper Title: Demographic Transformation clustering of transactional data for sales prediction of convenience stores

Authors: Xiaojun Zhang, Jisheng Pei, Xiaojun Ye

Publication details : Published on IEEE 2016

Findings:

- Extracting customer characteristics through transactional data

- Two different data attributes, customer type proportion and category profit score, and two different algorithms, k-means and EM, to cluster.

Advantages:

- Provides prediction results per category

- Market Basket Analysis can be easily integrated with the model

Disadvantages:

- We can not forecast sales of a commodity precisely just according to its category

LITERATURE REVIEW

Paper Title: Profit prediction using regression model for travel agents

Authors: Rahmatika Santi, Masayu Leylia Khodra

Publication details : Published on IEEE 2018

Findings:

- Model evaluation using linear regression

Advantages:

- The model uses independent variables to estimate profit as per the travel agent's required factor

- This can give the cost estimation to travel agent to describe the value for target completion.

Disadvantages:

- The model uses cumulative data of variable to generate results

- It is focused of transactional data

PROBLEM DEFINITION

Problem Identified

[1] Retailers face a loss in revenue due to improper investment and management activities.

[2] Many incur loses because their customer reach is limited.

[3] Analyzing the demand and turnover will help with the strategic planning and boost the business.

Solution Identified

[1] Sales forecast is an important factor for efficiency of the businesses

[2] An e-commerce system will get the retailer businesses online and in-turn increase the reach of the same to the potential consumers.

3] Estimated sales can help them to make product based decisions.

TECHNOLOGY STACK
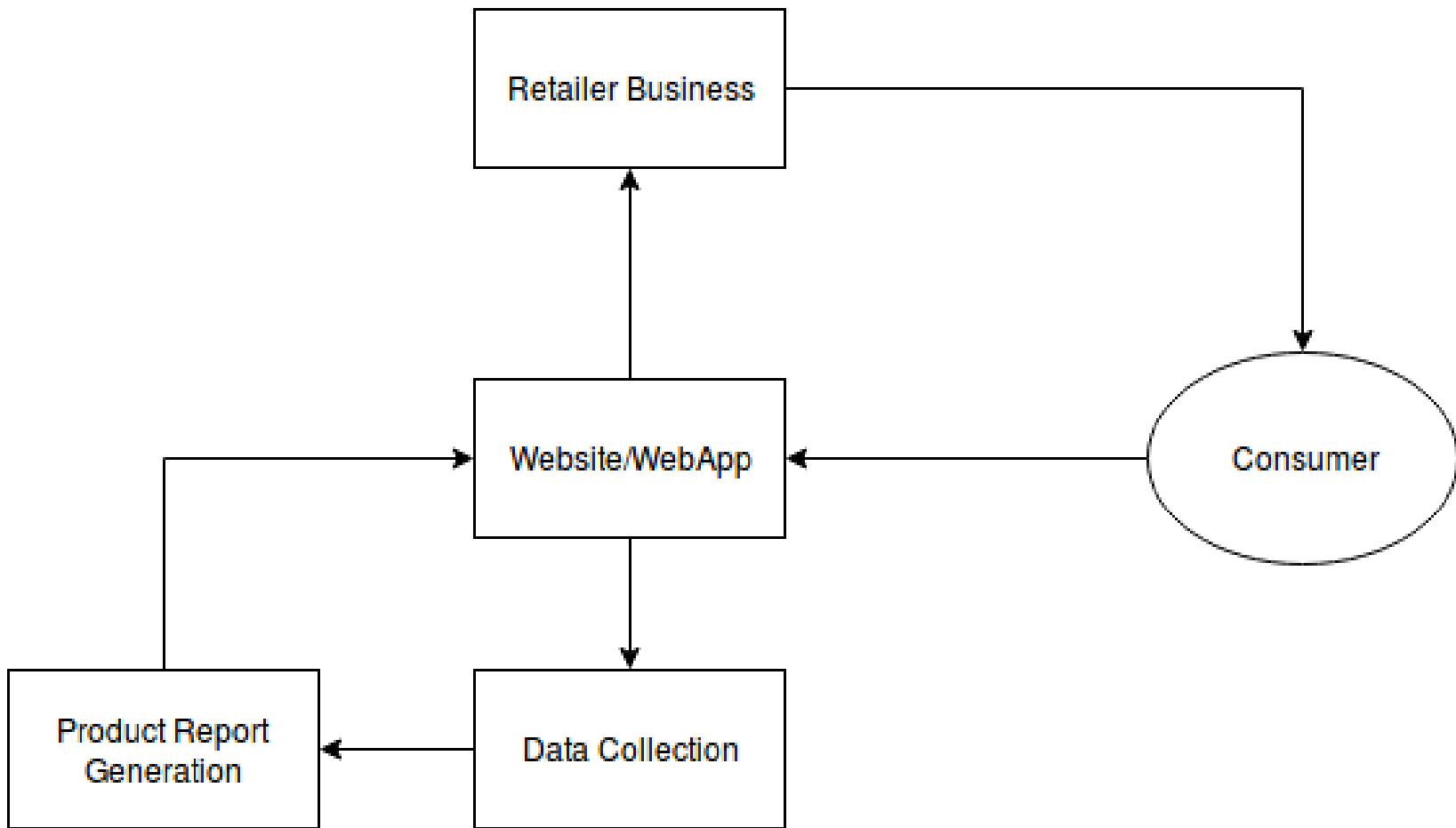
Frontend:

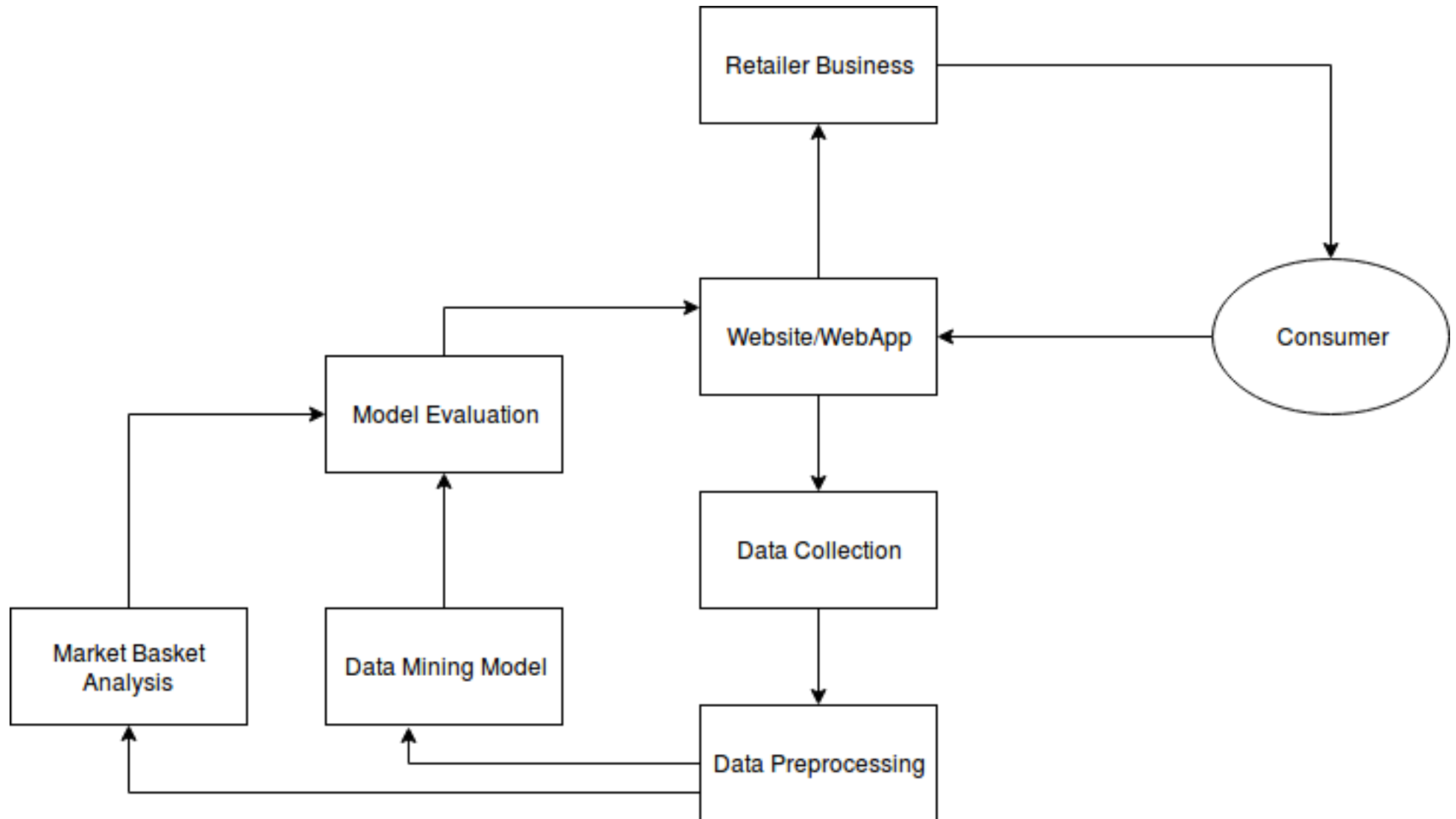Flask, HTML5, CSS3, JavaScipt

Backend:

MySQL

Algorithms:

Classification, Clustering and Market Basket using Association rules

EXISTING SYSTEM ARCHITECTURE

PROPOSED SYSTEM ARCHITECTURE

SCOPE OF THE PROJECT

- Developing Android/ iOS app with same functionality

- Integrating offline features

LIMITATIONS

- The system cannot be accessed without internet connection

- Retailers should keep the purchase data updated.

CONCLUSION

- Evaluation of data mining factors will provide the retailer with effective suggestions for improving the sale of items.

- It will help with the markup of profit for the business.

- Promote the system to sell those products having more demand in the market and increase the customer base.

THANK YOU!