Software Engineering and Intelligent Information Systems Research Lab

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Local stakeholders' involvement, piloting cases of interest

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1st Stakeholders Meeting and Workshop on Cloud Computing and Software Services
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Outline

- Revenue system
- Machine Learning
  - Store Predictions
  - Financial Predictions

Revenue system

Customers find it difficult to choose from a large variety of products or be informed for the latest offers that exist in a store based on items they need or wish to purchase

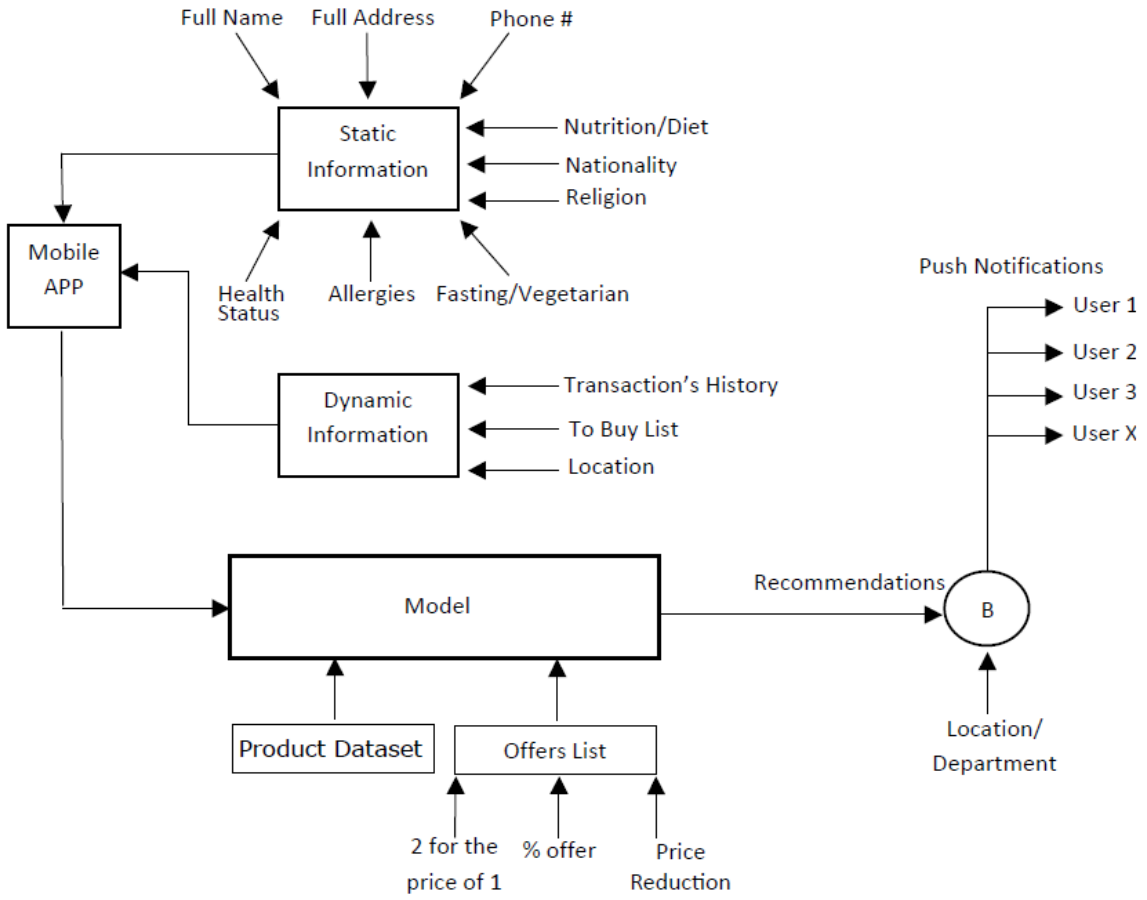
Stores' owners want to provide customers will easy means for buying products aiming to increase their sales and in the same time their revenue

Revenue System - 2

A real-time targeted Recommender System that will be deployed in a supermarket environment with the aim of suggesting real-time personalized offers to customers.

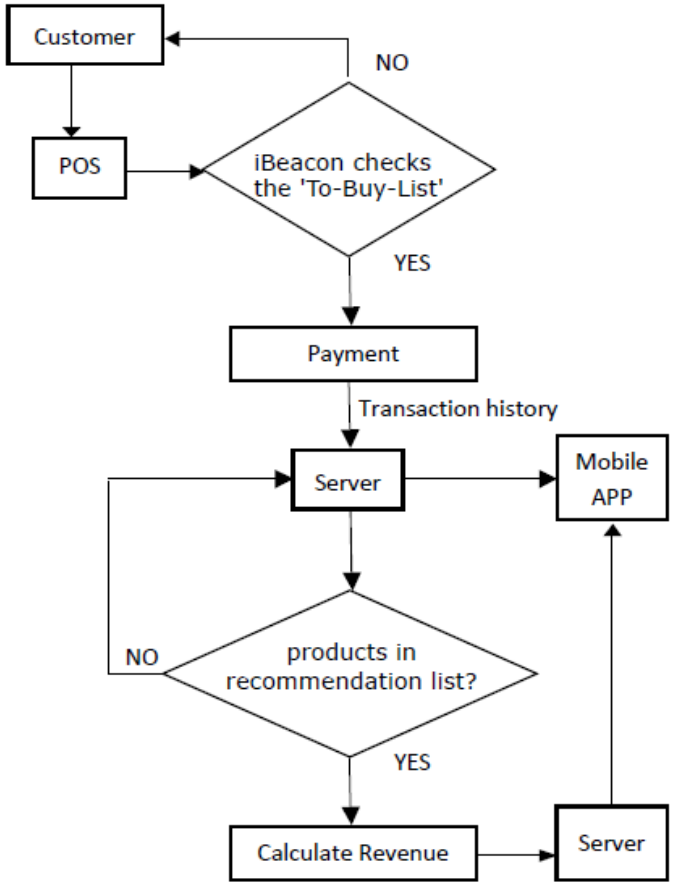
As customers navigate in the store, iBeacons push personalized notifications to their smart-devices informing them about offers that are likely to be of interest.

Revenue System - 3



- Replacement of Reward card
- Static/Dynamic Information
- Novel model for recommendations

Revenue System - 4



- Real-time implementation in a local supermarket
- Real-time recommendations
- Real-time measurements of revenue increments [1]

Machine Learning

Machine learning is the science of getting computers to act without being explicitly programmed

In the past decade, machine learning has given us self-driving cars, practical speech recognition, effective web search, and a vastly improved understanding of the human genome.

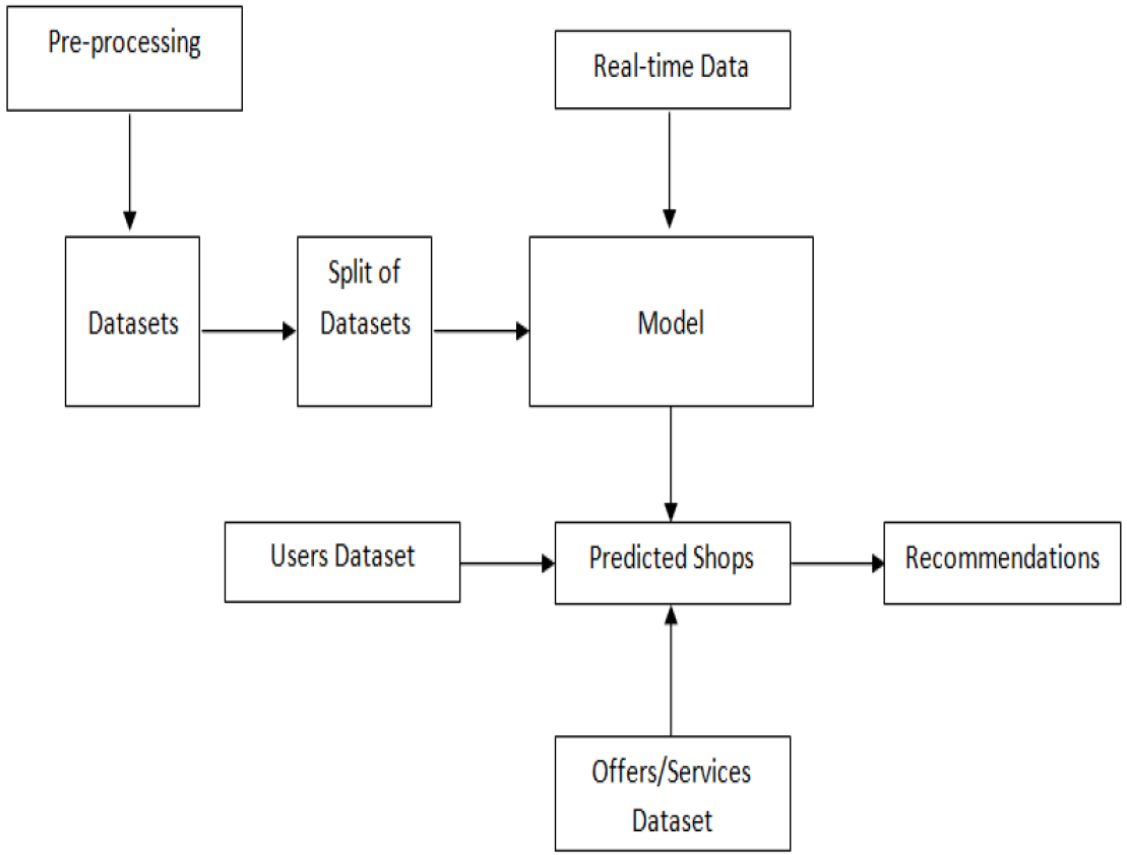
Machine learning is so pervasive today that you probably use it dozens of times a day without knowing it [2]

Machine Learning - 2

Machine learning is used to learn correlations that exists in datasets and then make predictions on a set of users

k-NN methods, Clustering, Decision trees learning, Association rules learning, Artificial neural networks, Deep learning, Bayesian networks, Reinforcement learning, Similarity learning etc

Store Predictions



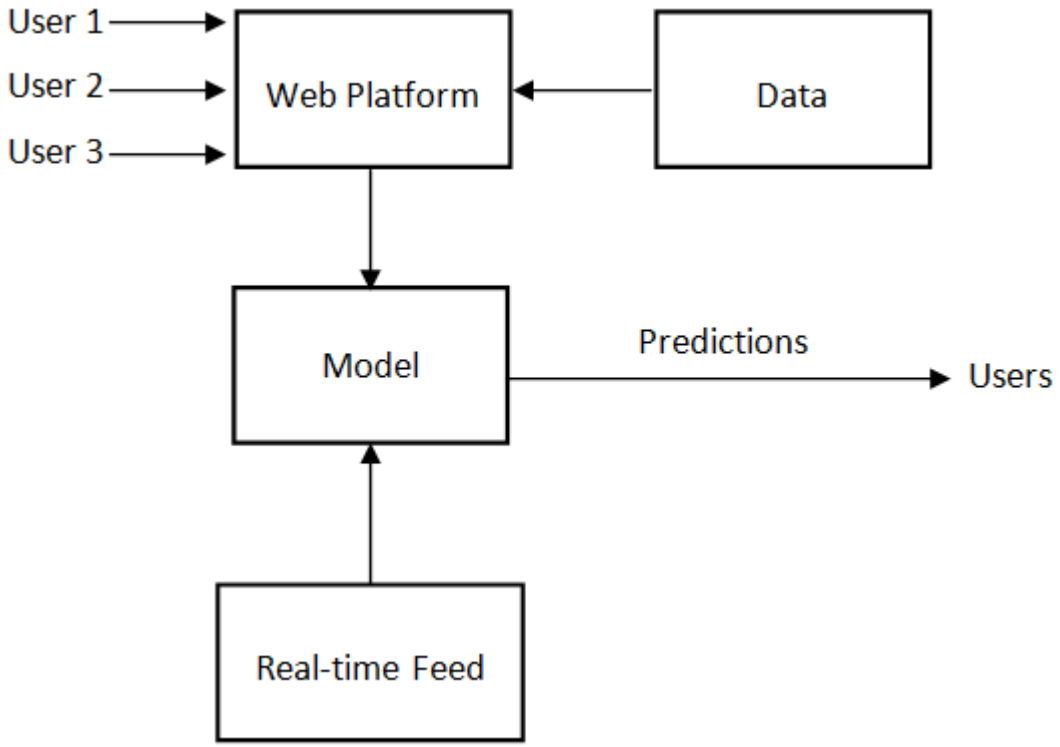
- Propose a system that uses machine learning techniques to:
  - *predict a list of top-k shops a user will visit more frequently*
  - *recommend products, services or offers from the most-visited shops back to the user.*
- When a user registers into the system its information is transferred to the model automatically from real-time feeds
- After having the list of top-k shop predictions for each user the system recommends a list of products/services/offers suitable to the active user and available only in the predicted shop.

Financial Predictions

- Cargo Predictions
- Stock Market Predictions
- Oil/Gas Predictions

- Train datasets
- Machine Learning techniques
- Future Predictions

Financial Predictions - 2



- Web platform bidding
- Existing Data
- Real-time Feeding (events that affect the price up/down etc)
- Machine learning approaches
- Real-time predictions to users

THANK YOU

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References

[1]: A Real-Time Targeted Recommender System for Supermarkets, P. Christodoulou, K.Christodoulou, A.Andreou, 2016

[2]: Stanford University Notes