METU, Department Of Computer Engineering

Graduation Project

Proposal Form

Project Information

Title

Smart Shopping List Application

Target

Public [ ] Restricted [X]

We would like to restrict access to the project to The Chaincoders (our own group) only.

Proposer Information

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IP (Intellectual Property) Information

All rights of the product belong to our group, The Chaincoders.

Project Description and Background Information

Description

The Smart Shopping List Application aims to help the user create shopping lists that is on their smart-phone, categorized, localized and sharable. Main features include: 1) item suggestion based on shopping habits of the user, or other users with similar shopping patterns, 2) matching an item in a list (string) with items in the database of partner supermarkets / stores (data), 3) dynamically creating shopping routes for each list based on location and nearby partner supermarkets / stores, 4) sharing & searching & tagging lists for tag-based shopping, e.g. searching for “salad” tag when you are not sure what to buy for preparing a salad.

Similar Products/Projects

Mobile applications for creating shopping lists:

1. Out of Milk
2. Our Groceries Shopping List

Technologies for personalized item suggestions:

3. Your Amazon page on Amazon.com

also, almost any suggestion feature in any e-commerce website.

Dynamic Route Creation:

4. Google Maps Navigation - creating routes with multiple destinations

Tag Based Content Management:

5. Twitter

Justification of the proposal

The project intends to assist users to decide on what to buy and where to buy for both general and specific purposes of shopping, while serving for the pure basic purpose of creating a list.

The finished product can help the user with the planning of purchasing almost anything that is offered by the partner companies and brands. We need a realistic prediction of what we can / should buy when we need something specific, experiences of other people may be a great help for that. Our application serves just that, both by people themselves directly and by analyzing what they buy.

With this application, people are going to have a more practical & always nearby shopping list that suggests items as well, and will therefore forget less items to buy. They are going to be able to find guides for shopping for a specific purpose, like what to buy and what amount to buy. They can get information about the items they plan to buy before going to the store. Matching items on the list with real items is a huge help for price and stock information. Optimized shopping routes save time and money.

Contributions, Innovation and Originality Aspects of the Project

Similar products on the market are all separated or unable to serve for the purposes we intend to serve for. Our application combines and uses the most useful technologies in several different fields for the optimized shopping experience.

Our final products main advantage is going to be the connection between a persons entry to the list and the real item from one of the markets / stores, thus letting the user get information about the item beforehand. In addition to that, the social aspect of the application is useful for accessing shopping experiences of other people. Finally, partner markets and stores may benefit from the item preference information of all people.

This project holds the potential of gathering a serious amount of consumption data for any industry that benefits from consumer information, so companies may find partnership beneficial, encouraging them to maintain a better database in order to match with the application interface. This would mean better integration with modern industrial techniques for all the companies both nationwide and worldwide. Also, there is a detailed data analysis aspect of the application which is a great experiment in machine learning / big data fields.

Technical Aspects of the Project

This project is likely to include mobile application development for the most common platforms and their most frequently used development tools / languages, like Java for Android. The project also includes some server side computing, and a lot of interfaces are going to be required to connect to the API's needed.

We are most likely to follow the MVC design pattern.

Targeted Output, Targeted User/Domain Profile

The end product is a mobile application at the user end and an advanced machine learning algorithm ready to be applied on shopping data at the back end.

A possible scenario where the project gets successful is higher rates of suggesting the right items to the users at the right time and providing the right results for any search. These can be confirmed both statistically and with user feedback.

Any person that shops for anything is a potential user and any kind of store / brand / company that uses some kind of a digital product database is a potential partner for our system.

Project Development Environment

For programming the algorithms, we are planning to use high level languages with machine learning library support, and for the mobile applications we can use regular IDE's on desktop computers, and for testing we can use our personal mobile devices.

We are planning to generate mock databases for users, lists and products for early development / testing. As the project progresses, we may contact some companies for their databases / API's.

External Support

We may require some mobile devices for testing the user application.

References

1. https://play.google.com/store/apps/details?id=com.capigami.outofmilk&hl=en
2. https://play.google.com/store/apps/details?id=com.headcode.ourgroceries
3. https://www.amazon.com/gp/yourstore/
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