

CPSC 471

Database Management Systems

Project Proposal

Gurnoor Aujla (T01 - 10102069), Kamalpreet Mundi (T02 - 30048008), and Tyler Lam (T02 - 30039361)

Table of Contents

Table of Contents	2
Problem Definition	3
Existing Solutions	4
Shopify	4
Net Suite	4
Ordermentum	4
Thirstie	4
Proposed Solution	5
Endpoints	5
Sale Items	5
Motivation	5
Impact of Solution and Uniqueness	5
Expected Contributions	6
Conclusion	6
References	6

Problem Definition

The objective of this project is to develop an Application Programming Interface (API) using the ASP.NET platform. An API is a set of software routines, protocols, and tools for building computer applications. In other words, it allows two software applications to interact with each other [1]. The API should solve a real-life problem and can be for personal external contacts.

Currently, one of our group members has an external contact who owns a liquor store, Olympia Liquor [2]. Olympia Liquor has a public website, but the website does not have sale prices listed on it. This proves to be an inconvenience for many customers who want to find and compare liquor prices online quickly and easily. For many people, money is the most important factor as to why they will visit a particular shop or not. Therefore, it is important that prices are listed for products on websites.

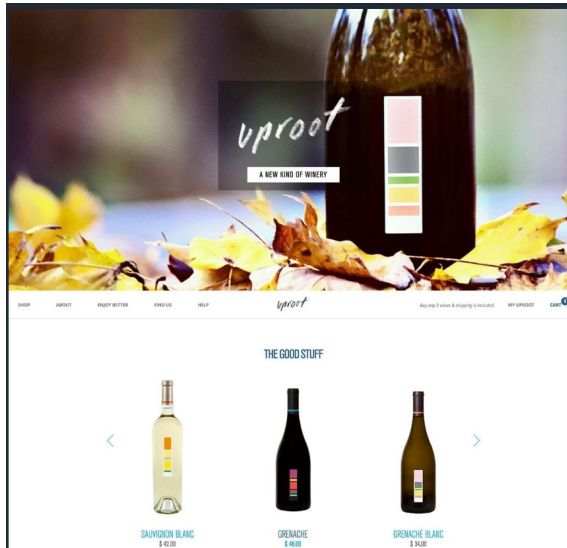
We find this problem interesting because it involves a real-life scenario with no ‘mock’ databases and information being used. All results are being used to benefit a real-life small business, and as computer scientists, our life goal is to be able to develop real life solutions to assist big and small businesses alike. While there are solutions to similar problems, this is a problem that has not been solved.

There are several possible solutions to this problem within the scope of this being a term-long project. Each is listed below.

- Prices can be manually coded and programmed into the website. While this seems to be the most straightforward way, it’s also relatively difficult to maintain as the website owner needs to manually change the database values every time they want to change the price.
- Another solution involves building an API from scratch to retrieve inventory data, and updating the store prices correspondingly.

Existing Solutions

Shopify



Shopify includes a web creation service along with its API. They give small businesses the ability to take their store inventory online. Shopify is also known for creating pure e-commerce websites for companies [3]. In our case we already have a website that is up and running, this eliminates the need for any web design. The clearPOS inventory management running at the store is also rather obscure, so we think a custom made API would work better than Shopify's.

Net Suite

NetSuite offers similar tools in comparison to Shopify, but they also offer business insights. They provide trends and advice to help grow your small business [4]. For our purposes, the business is doing alright on its own and doesn't require all of these extra services.

Ordermentum

Ordermentum API is a solution focused on the food and beverage industry to facilitate order and payment management. It's a full-fledged platform to assist with schedule management, credit card payments, custom pricing options, and product displays [5]. Compared to this solution, our idea is more streamlined and applicable to Olympia Liquor. Ordermentum is a pricey platform that has many features that are best suited for large scale, customer-oriented on-the-go restaurants and not a liquor store.

Thirstie

Thirstie API provides data and brand solutions for beverage alcohol brands. It provides insights on customer behavior and trends, as well as payment management [6]. Similar to Ordermentum, this platform does not perfectly suit our purposes as it is best suited for individual alcohol brands.

Our solution is inexpensive and well suited to our problem. Our goal is to provide a simple and easy-to-use API that gets the sale prices listed on the website.

Proposed Solution

The solution we propose is to use an API to connect to the Olympia Liquor inventory. We will use the API to push data from an inventory database to the website for display purposes. This will allow the store owners to change prices and have those prices reflected on the site without any inconvenience.

Our target audience is the Olympia Liquor management team.

Endpoints

Note: Since we are dealing with displaying sale data to a website, we don't want to include API endpoints to change the database. The database is modified on the owner's end, all we want to do is display that data to the website.

Sale Items

- Endpoint for retrieving the liquor inventory data.
- Endpoint for retrieving the name of the product.
- Endpoint for retrieving the description of the product.
- Endpoint for retrieving the picture file associated with a specific item.
- Endpoint for updating pictures associated with a specific item.
- Endpoint for retrieving which item is on sale.
- Endpoint for retrieving the price of each sale.
- Endpoint for retrieving the discount percentage for each sale.
- Endpoint for retrieving the length of each sale.
- Endpoint for retrieving the availability(stock) of each item.
- Endpoint for retrieving the volume of the product.

Motivation

Impact of Solution and Uniqueness

As a group, our goal is to develop a solution that solves a challenging problem, is interesting, and is applicable to the real world. One of our group members has an external contact who owns a liquor store, which means that we are developing an API for a real-life business. Unlike a typical class project, we will be developing an efficient and effective solution for improving a company website.

However, his problem will prove challenging for us in several aspects. Firstly, none of us have developed an API before, which means we'll be learning about the API development process throughout the semester. Secondly, a liquor store features many different products, which means that a solution will not be too simple. Lastly, a liquor store has different types of multimedia that can be accessed, which means we will need to learn how to access more than simple text data. What makes our API unique, is that it has to work with an already established database system known as clearPOS. It's not as simple as changing values in an SQL file or excel spreadsheet, some coding needs to be done to communicate with this software.

Expected Contributions

As a group, we expect our API solution will provide a seamless and effective way to add prices to the Olympia Liquor website. By doing this, customers will have an easier time finding and comparing prices of liquor online. This could potentially increase the number of patrons that purchase from the store.

Conclusion

Currently, the Olympia Liquor website is missing sale prices for its products displayed. The main idea for this API is to make the website more convenient for the customers as well as for the store owners. The whole idea is so that customers can easily view prices online, and store owners can easily change prices of their product, which can easily be reflected onto the website. This is why it would make sense to have the API be the middle link between Olympia Liquor's inventory system and the website.

When considering the timeline, we expect to be working on our Intermediate Progress Report throughout the reading break and have it completed by February 23rd. We will promptly begin working on our API in the first week of March. We expect to have our resources, problem, and expectations from the Olympia Liquor owner completed by March 7th. After that, we plan on getting started on the Final Report and have it completed to the best of our ability by mid-March. Over the next couple of weeks, we will begin working on designing, developing, and implementing our API solution along with the API documentation. We aim to have that completed by the beginning of April. Lastly, we'll wrap the Final Report up and put the final touches on our solution.

References

- [1] Beal, V. (n.d). API - application program interface. Accessed on February 7th, 2019. Available on: <https://www.webopedia.com/TERM/A/API.html>
- [2] Olympia Liquor. Accessed on February 10th, 2019. Available on: <http://www.olympialiquor.ca/>
- [3] Shopify. Accessed on February 10th, 2019. Available on: <https://www.shopify.ca/>
- [4] Oracle Netsuite. Accessed on February 10th, 2019. Available on: <https://www.netsuite.com/portal/home.shtml>

- [5] Ordermentum. Accessed on February 10th, 2019. Available on: <https://www.ordermentum.com/>
- [6] Thirstie. Accessed on February 11th, 2019. Available on: <https://thirstie.com/>