Comp 466 – Assignment #3A

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January 30, 2019

Homepage

Hyperlink: https://moshiur-comp466assign-3a.azurewebsites.net/tma3.htm

The homepage was designed to contain the launching page to allow directory access to all the parts of the web applications implemented for this assignment. A clean, simplistic design was used for the overall look of the web application, with a navbar at the top for easy access to each part of the assignment. Also, a footer to cover the bottom of the webpage was implemented. Majority of the CSS design for the Web Application for the first 2 parts and the documentation webpage was implemented in this stage of the assignment. A small container containing icon hyperlinks to the four parts of the assignments application as well as its explanation is contained in there.

Note, the documentation for this assignment is placed in the "Full Documentation" tab of this website as well as the second hyperlink in the "Documentation Container".

Part 1:

Hyperlink: https://moshiur-comp466assign-3a.azurewebsites.net/part1/part1.aspx

For this part, a simple web page counter was asked to be implemented. The cookie, and its counter logic was implemented in the part1.aspx.cs code behind file. The part1.js file was used to display client's IP address and time zone.

Part 2:

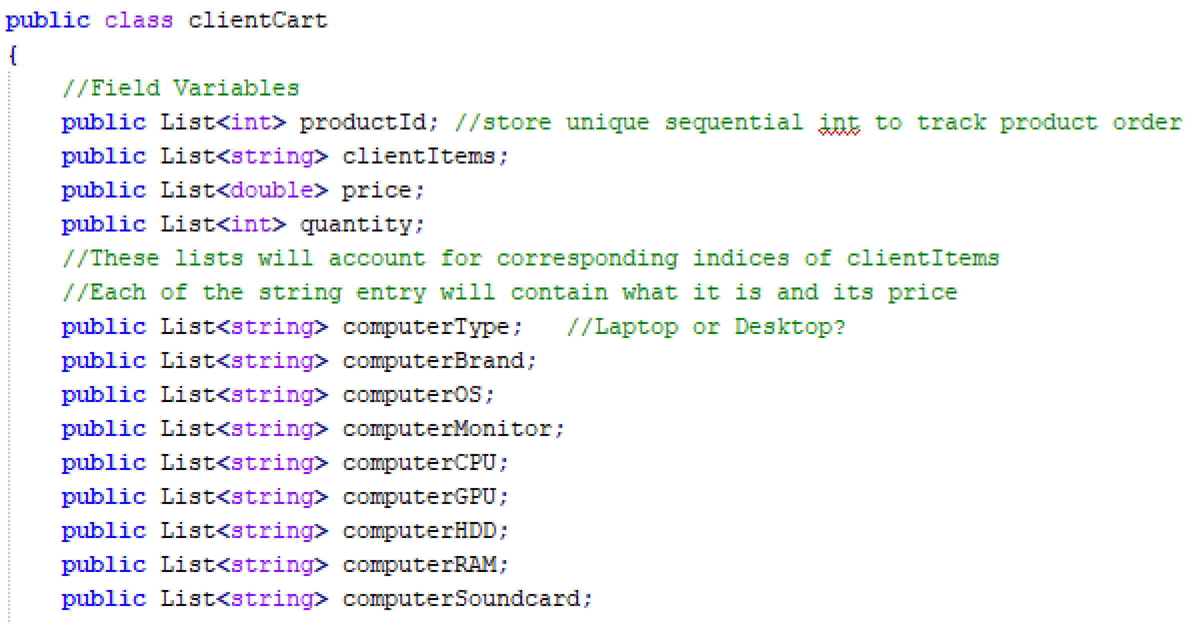
Hyperlink: https://moshiur-comp466assign-3a.azurewebsites.net/part2/part2.aspx

For this part, a slideshow application in ASP.net using C# was asked to be implemented. The framework Newton.JSON.net framework was used to deserialize the JSON data stored in the slideshow.JSON file. The JSON file contains the exact same JSON array from part 3 of assignment #1. A timer control in C#, as well as ASP.net's View_State to preserve the Value of the web Page and to allow communication between the client's page and server. This allowed all the functionality asked of in this part (such as pause/play, change index etc.)

Part 3:

Hyperlink: https://moshiur-comp466assign-3a.azurewebsites.net/part3/homepage.aspx

A summary: A ecommerce website using ASP.net was asked off to be implemented. My design allows the user to customize and build either a desktop or a laptop. As well they can order any of the available parts used to build the computers separately. The main design challenge was the product tracker used to track the user's cart. Numerous number of cookies were used almost like a stack data structure to store, remove, and display the shopping cart data. These cookies were read by a clientCart class as shown below:



```
public class clientCart
{
    //Field Variables
    public List<int> productId; //store unique sequential int to track product order
    public List<string> clientItems;
    public List<double> price;
    public List<int> quantity;
    //These lists will account for corresponding indices of clientItems
    //Each of the string entry will contain what it is and its price
    public List<string> computerType;   //Laptop or Desktop?
    public List<string> computerBrand;
    public List<string> computerOS;
    public List<string> computerMonitor;
    public List<string> computerCPU;
    public List<string> computerGPU;
    public List<string> computerHDD;
    public List<string> computerRAM;
    public List<string> computerSoundcard;
```

The above fields read from the numerous cookies stored in the client side to do appropriate manipulations of the data to implement the product tracker logic.

Constructor/Methods	Purpose
`public clientCart()`	Constructor to initialize the clientCart object. This object allows efficient data manipulation of the shopping cart.
`public void addComponentToCart(string item, int itemPrice, int itemQty)`	Method to add new components selected by the user to add to the cart. Appropriate storage of this data into the cookie is also done.
`public void addComputerToCart(...)`	Method to add a customized laptop or desktop to the client's shopping cart.
`public void removeFromClientCart(int indexToRemove)`	Method to remove any item from the cart.
`public String returnCartSummary()`	Method used to save the state of the clientCart object into the cart

Unfortunately, some time was wasted attempting to implement this product tracker with a single cookie, with a Newtonsoft.JSON.net framework to convert/serialize/deserialize the clientCart object into a single string for a more compact code but the framework kept giving stack overflow errors hence this design choice was abandoned.

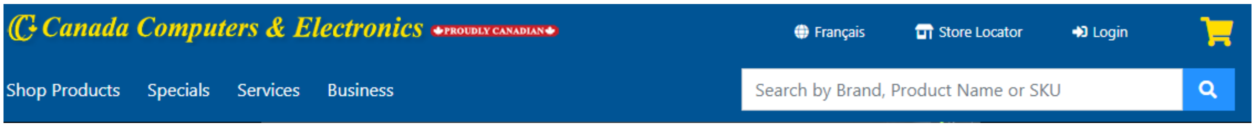
Below is the design I did before implementing the website:

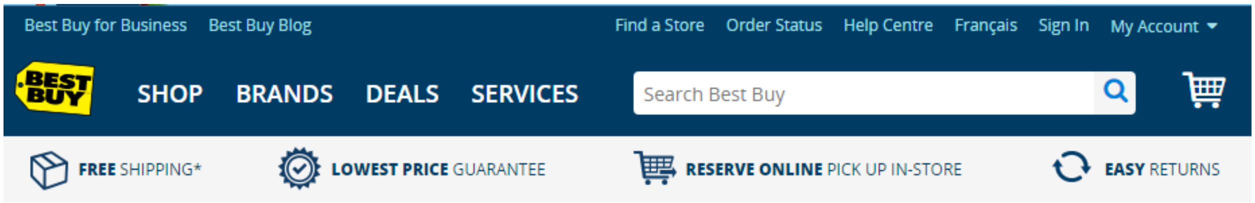
My makeshift ecommerce website name will be "Comware".

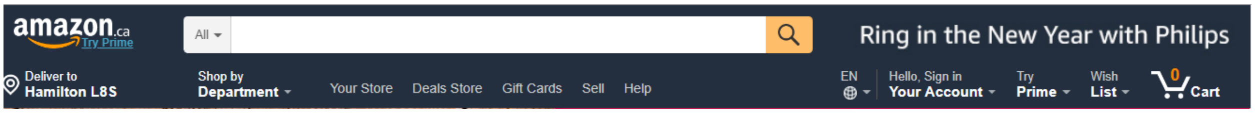
COMWARE

I have visited eCommerce websites such as https://www.canadacomputers.com/, https://www.amazon.ca/, and https://www.bestbuy.ca/.

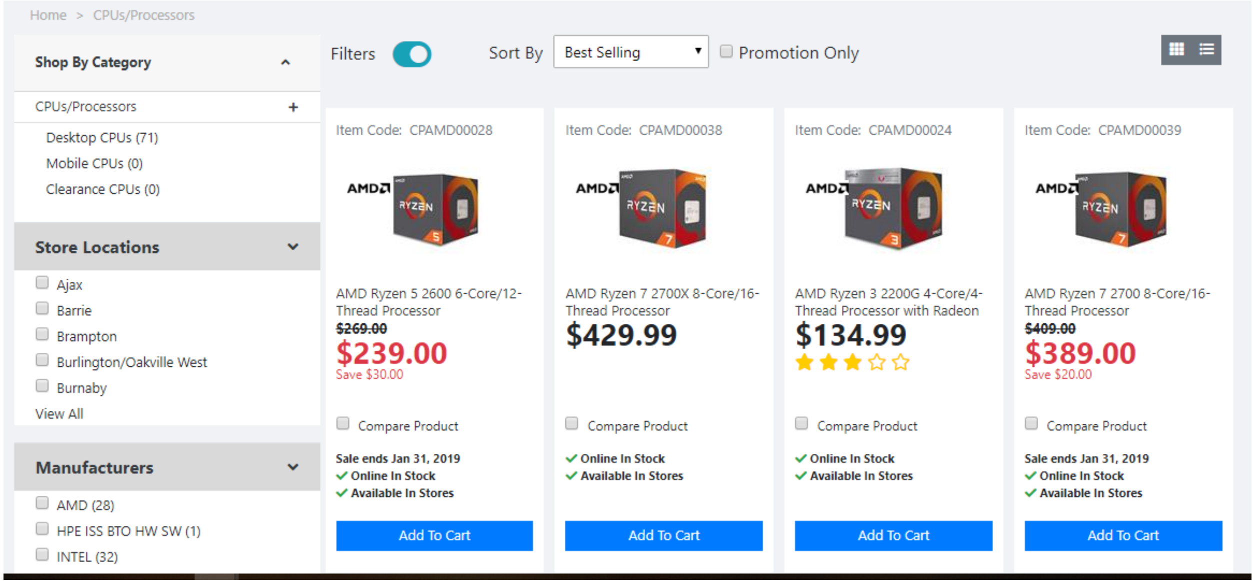
There are many similarities found between these commerce websites. There is a very detailed, comprehensive navbar which links users to services like browsing products, a cart logo for viewing user product being considered in cart, a search bar to find products, a login link and more.







All of them have a nice big ad slideshow which is also a hyperlink to the relevant advertised product pages to attract customers as well the website contains beautiful icon hyperlinks to attract users. For Canada Computer's website, they have a small Feedback tab floating on the right to allow user to submit feedback forms to them. When browsing through the products, they contain the image of the product, the pricing, option to add to cart, and option to filter based on category.



Home > CPUs/Processors

Shop By Category

CPUs/Processors +

Desktop CPUs (71)

Mobile CPUs (0)

Clearance CPUs (0)

Store Locations

□ Ajax

□ Barrie

□ Brampton

□ Burlington/Oakville West

□ Burnaby

View All

Manufacturers

□ AMD (28)

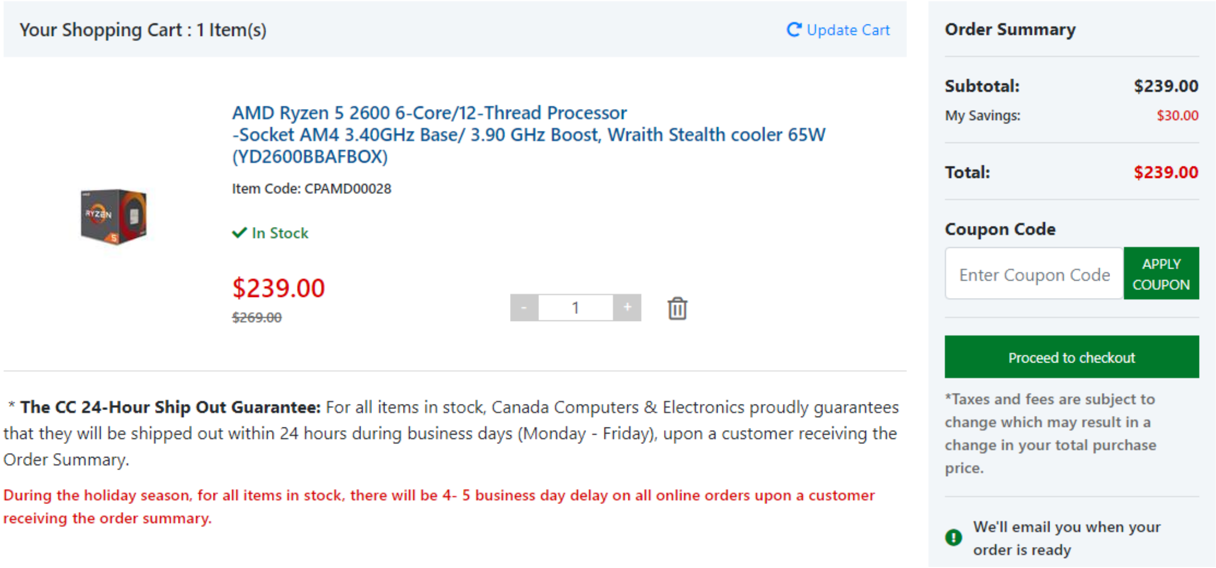
□ HPE ISS BTO HW SW (1)

□ INTEL (32)

Filters ● Sort By Best Selling □ Promotion Only

Item Code: CPAMD00028	Item Code: CPAMD00038	Item Code: CPAMD00024	Item Code: CPAMD00039
AMD Ryzen 5 2600 6-Core/12-Thread Processor	AMD Ryzen 7 2700X 8-Core/16-Thread Processor	AMD Ryzen 3 2200G 4-Core/4-Thread Processor with Radeon	AMD Ryzen 7 2700 8-Core/16-Thread Processor
~~$269.00~~ $239.00 Save $30.00	$429.99	$134.99 ★★★☆☆	~~$409.00~~ $389.00 Save $20.00
□ Compare Product	□ Compare Product	□ Compare Product	□ Compare Product
Sale ends Jan 31, 2019 ✓ Online In Stock ✓ Available In Stores	✓ Online In Stock ✓ Available In Stores	✓ Online In Stock ✓ Available In Stores	Sale ends Jan 31, 2019 ✓ Online In Stock ✓ Available In Stores
Add To Cart	Add To Cart	Add To Cart	Add To Cart

When the cart is filled with item(s), the user can select the cart to place an order. The order page looks like the following:



Your Shopping Cart : 1 Item(s)

AMD Ryzen 5 2600 6-Core/12-Thread Processor -Socket AM4 3.40GHz Base/ 3.90 GHz Boost, Wraith Stealth cooler 65W (YD2600BBAFBOX)

Item Code: CPAMD00028

✓ In Stock

$239.00

~~$269.00~~

- 1 +

* **The CC 24-Hour Ship Out Guarantee:** For all items in stock, Canada Computers & Electronics proudly guarantees that they will be shipped out within 24 hours during business days (Monday - Friday), upon a customer receiving the Order Summary.

During the holiday season, for all items in stock, there will be 4- 5 business day delay on all online orders upon a customer receiving the order summary.

Order Summary

Subtotal:	$239.00
My Savings:	$30.00
Total:	$239.00

Coupon Code

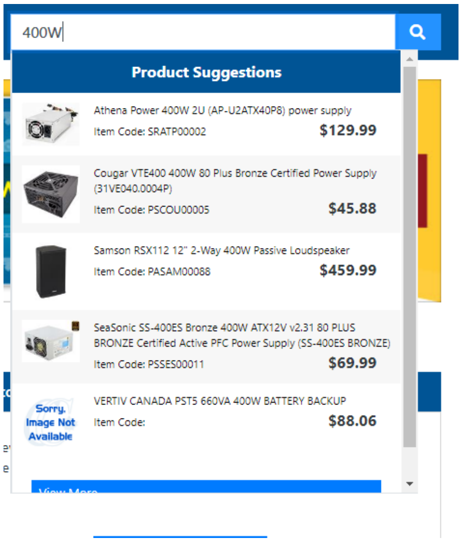
Enter Coupon Code

*Taxes and fees are subject to change which may result in a change in your total purchase price.

We'll email you when your order is ready

Once the user enters the appropriate credentials, we can track this order.

Also, for the search bar, the stores seem to have very intelligent recommendation DOM to generate suggestions. For our case, we will only try to match what is in the database product lists.



400W

Product Suggestions

Athena Power 400W 2U (AP-U2ATX40P8) power supply
Item Code: SRATP00002 **$129.99**

Cougar VTE400 400W 80 Plus Bronze Certified Power Supply (31VE040.0004P)
Item Code: PSCOU00005 **$45.88**

Samson RSX112 12" 2-Way 400W Passive Loudspeaker
Item Code: PASAM00088 **$459.99**

SeaSonic SS-400ES Bronze 400W ATX12V v2.31 80 PLUS BRONZE Certified Active PFC Power Supply (SS-400ES BRONZE)
Item Code: PSSES00011 **$69.99**

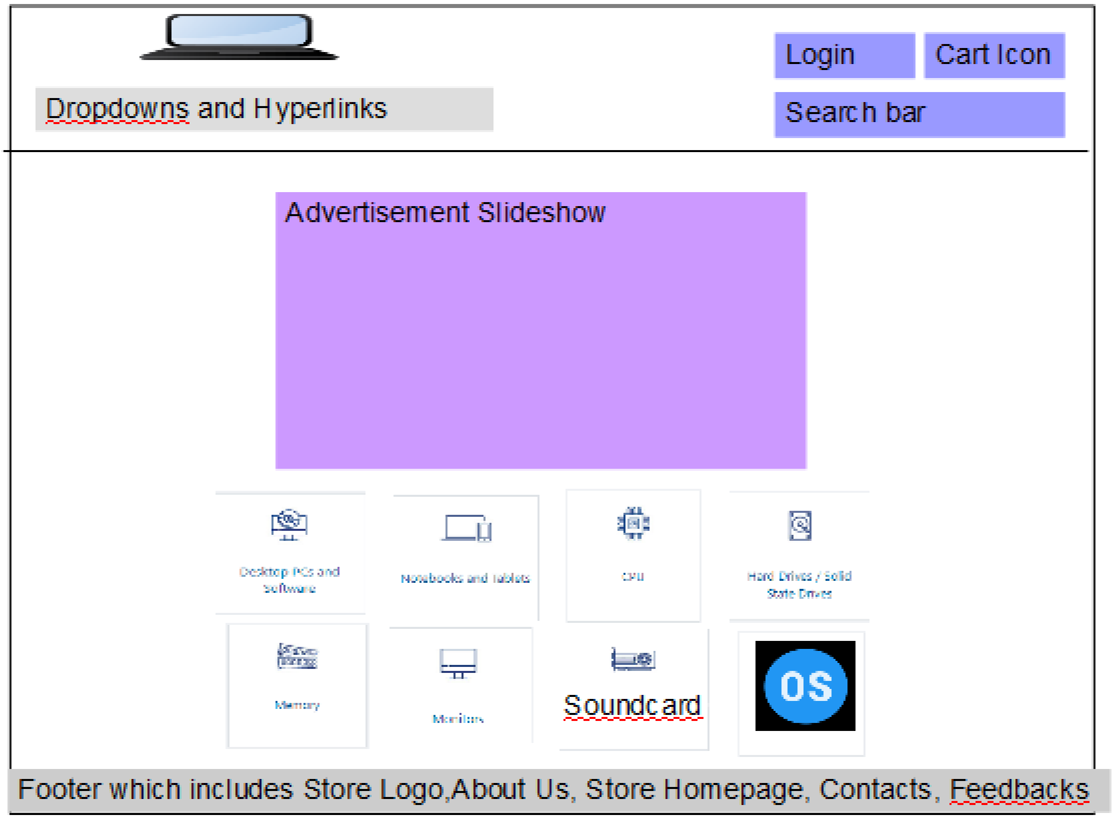
Sorry, Image Not Available
VERTIV CANADA PST5 660VA 400W BATTERY BACKUP
Item Code: **$88.06**

View More

My Interpretation of the Requirement:

Expected Front Page (other pages will follow this template)

Please note the cart total will be displayed right next to the cart to meet requirement 6 of part 3.



List of Webpages and what I hoped to have implemented by end of this assignment:

Webpage Name	Purpose	Functionality
Homepage.aspx	The launch/home page for the store Comware	- A Navbar on top with a dropdown menu to redirect to other assignment parts, menu to either build a desktop or laptop - Should have a nice, big slider to advertise products - Have 8 nice panels containing product links to redirect to the appropriate webpages - A footer containing Store Logo
Cart.aspx	To review the cart, and to finalize orders	- View Price of products in the cart - Edit Quantity of the product - Delete Item from Product Cart list - Hit Order to order the product, for authentication of purchase, in part 4 we can simply ask for the user credentials used for the website system.
AboutUs.aspx	To view company history	- Simply display company "About Us" description
Contacts.aspx	To view company contacts	- Simply display company contact information
LoginPage.aspx	To allow registration as well as login	-Provide ability to log user in after they enter correct Credential -Provide ability for user to signup. Should have 4 fields (Username, email, password, confirm password) - Later in part 4 provide password recovery by sending email to user
BuildComputer.aspx	To allow user to build either a desktop or a laptop, then add to cart.	- Have a clients-side GUI app to customize order for the computer (desktop or laptop) with store's parts, and allow user to place in cart
OrderParts.aspx	To allow user to order components individually.	- Allow user to add component parts individually into the cart -Allow User to select/search/filter the products they want from catalogue
SearchResult.aspx	To allow user to view list of matching parts, and allow put into cart if needed	-Search and order parts

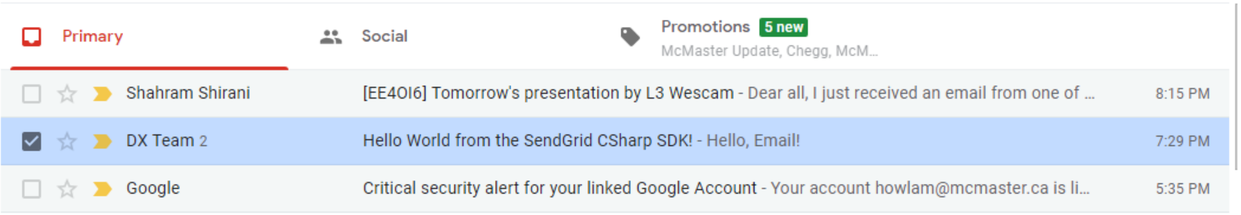
Any other appropriate functionality that should be available will be done fixed in part 4 with the backend database to support it.

<u>Part 4:</u>

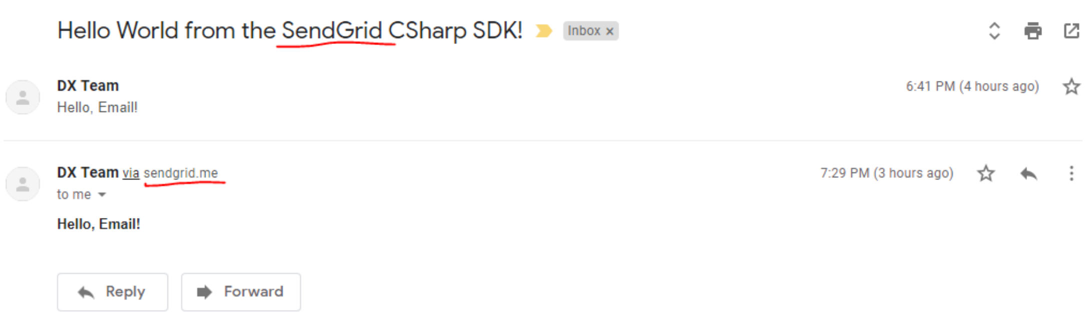
Hyperlink: https://moshiur-comp466assign-3a.azurewebsites.net/part4/homepage.aspx

Due to time constraints, I was not able to attempt Task 2 and 3 of this assignment. Task 1 was completed, however. In completing part 1, all the configuration required for the SQL database on Azure, configuration required to send emails (using the SendGrid framework to send the password recovery info to the user email), and the SQL table designs were essentially completed. To test whether task 1 was completed. Please navigate to the `https://moshiur-comp466assign-3a.azurewebsites.net/part4/login.aspx`.

One issue which I was not able to resolve for part 1 was why the email was not being sent even after configuring the setup as outlined in ASP.net and SendGrid's documentation for email. Even after running their sample code for sending emails, after the 2nd time running their sample code to send emails, the email just stop being sent from my email account howladermoshiur@gmail.com used to email the recovery password. Even after



Shahram Shirani	[EE4OI6] Tomorrow's presentation by L3 Wescam - Dear all, I just received an email from one of ...	8:15 PM
DX Team 2	Hello World from the SendGrid CSharp SDK! - Hello, Email!	7:29 PM
Google	Critical security alert for your linked Google Account - Your account howlam@mcmaster.ca is li...	5:35 PM



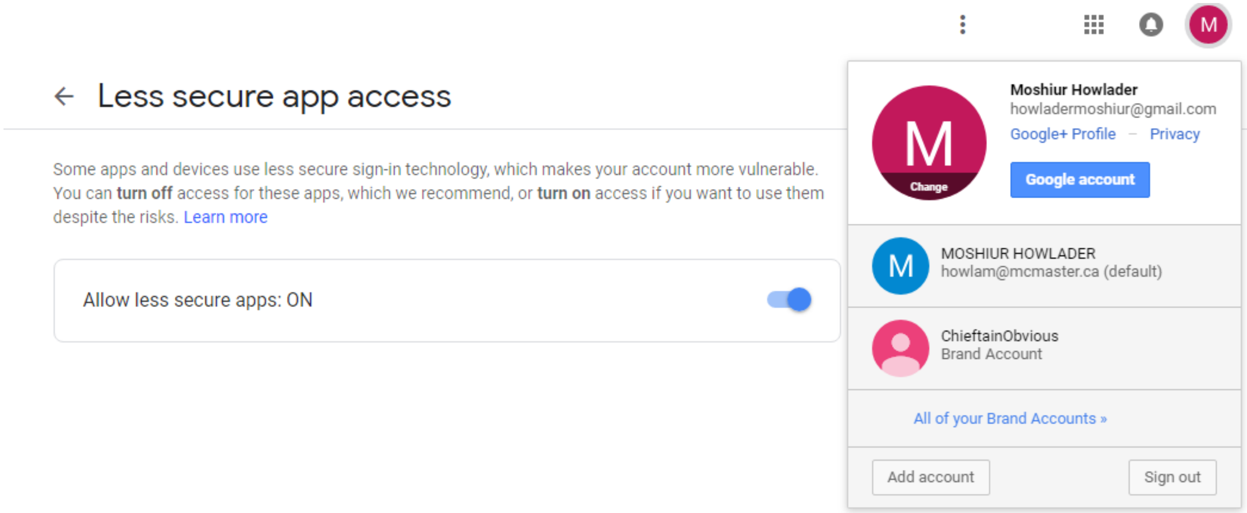
Hello World from the SendGrid CSharp SDK!

DX Team
Hello, Email!
6:41 PM (4 hours ago)

DX Team via sendgrid.me
to me
7:29 PM (3 hours ago)

Hello, Email!

Enabling for less secure app did not fix the issue either, and the SQL logic to construct the email string was not the issue either.



Less secure app access

Some apps and devices use less secure sign-in technology, which makes your account more vulnerable. You can **turn off** access for these apps, which we recommend, or **turn on** access if you want to use them despite the risks. Learn more

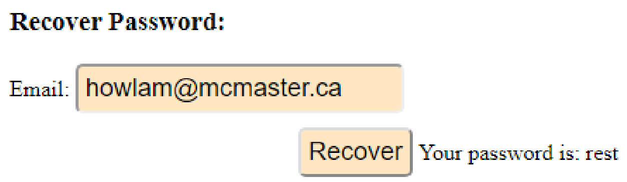
Allow less secure apps: ON

Moshiur Howlader
howladermoshiur@gmail.com

MOSHIUR HOWLADER
howlam@mcmaster.ca (default)

ChieftainObvious
Brand Account

However, the password will be displayed at below the “Recover” button.



Recover Password:

Email: howlam@mcmaster.ca

Your password is: rest

Regardless, the setup is made to finish the other 2 tasks given enough time.