1. Our Vision & Mission
2. Main Issues with Current System
3. Goals of Our System
4. Our Current Implementation
5. Acknowledgements
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OUR NEW VISION & MISSION.

VISION
Our vision is a safer dining experience for students across all universities.

MISSION
We are currently committed to the development of a better system for identifying allergens at Virginia Tech Dining Halls.
Main issues w/ current system

- Slow
  - Search Latency: **8.5 secs**
  - Lookup Latency: **6.3 secs**
- Running old software
  - Server Software is Windows IIS 8.5, released **9 years ago**
- Data is not centralized
- Overall lacks intuitive design

Source: [http://foodpro.dca.vt.edu/menus/](http://foodpro.dca.vt.edu/menus/)
IIS 8.5

HTTP Request Smuggling in Microsoft IIS Server 15 Jul, 2020
- Medium
- Not Patched

Privilege escalation in Microsoft IIS Server 09 Oct, 2019
- Medium
- Patched

Denial of service in Microsoft IIS Server 12 Jun, 2019
- Medium
- Patched

XSS in Microsoft IIS Server 14 Mar, 2017
- Medium
- Patched

Source: http://foodpro.dsa.vt.edu/menus/

Response Header

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache-Control</td>
<td>private</td>
</tr>
<tr>
<td>Content-Type</td>
<td>text/html; charset=utf-8</td>
</tr>
<tr>
<td>Location</td>
<td><a href="https://foodpro.students.vt.edu/menus/">https://foodpro.students.vt.edu/menus/</a></td>
</tr>
<tr>
<td>Server</td>
<td>Microsoft-IIS/8.5</td>
</tr>
<tr>
<td>X-AspNet-Version</td>
<td>4.0.30319</td>
</tr>
<tr>
<td>X-Powered-By</td>
<td>ASP.NET</td>
</tr>
<tr>
<td>Strict-Transport-Security</td>
<td>max-age=15768000; includeSubDomains; preload</td>
</tr>
<tr>
<td>X-XSS-Protection</td>
<td>1;mode=block</td>
</tr>
<tr>
<td>Date</td>
<td>Thu, 28 Apr 2022 00:24:55 GMT</td>
</tr>
<tr>
<td>Content-Length</td>
<td>165</td>
</tr>
</tbody>
</table>
“I RARELY USE THE WEBSITE, I FIND IT EASIER TO JUST PLAY IT BY EAR”

- CHRIS PROVEL
Au Bon Pain at Squires, GLC & Goodwin Hall

Menu and nutrition information is provided by Au Bon Pain on their website.
This information is not maintained by Virginia Tech Dining Services.

View Au Bon Pain's Menu

Source: http://foodprod.dsa.vt.edu/menus/ [3]
<table>
<thead>
<tr>
<th>Dining Centers</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Locations</td>
<td>All Days</td>
</tr>
</tbody>
</table>

* Vegetarian Items ** Vegan Items

<table>
<thead>
<tr>
<th>General Tso's Chicken w/Rice &amp; Broccoli</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Court/Hokie Grill at Owens Hall</td>
</tr>
<tr>
<td>Tue, Apr 26</td>
</tr>
<tr>
<td>Lunch</td>
</tr>
</tbody>
</table>
### General Tso’s Chicken w/Rice & Broccoli

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Amount/Serving</th>
<th>%DV*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>23.8g</td>
</tr>
<tr>
<td>Sat. Fat</td>
<td>3.7g</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>63.9mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>1427mg</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>0mcg</td>
</tr>
<tr>
<td>Iron</td>
<td>5.1mg</td>
</tr>
<tr>
<td>Calcium</td>
<td>50.1mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>272.3mg</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>5.4g</td>
</tr>
<tr>
<td>Sugars</td>
<td>16.5g</td>
</tr>
<tr>
<td>Protein</td>
<td>31.3g</td>
</tr>
</tbody>
</table>

**Serving Size 15 OZ**

**Calories 736**

**Calories from Fat 0**

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

INGREDIENTS: General Tso’s Chicken (TEMPURA BATTERED CHICKEN (tempura chicken breast mean chunks with rib meat contains up to 10% solution of water, modified food starch, salt and sodium phosphates, battered with: batter mix (yellow corn flour, bleached wheat flour, modified corn starch, salt, leavening (sodium aluminum phosphate, sodium bicarbonate), dried whey, spices, garlic powder, onion powder, dried whole eggs), water, corn oil, prebasted with: bleached wheat flour, leavening (sodium bicarbonate, sodium aluminum phosphate, monocalcium phosphate), nonfat dry milk, salt, dried whey, flavor (maltodextrin, salt, sugar, silicon dioxide, garlic powder, spices, soybean oil, natural flavor, extractives of turmeric, hydrolyzed corn gluten), garlic powder, onion powder, torula yeast, battered with: water, yellow corn flour, bleached wheat flour, modified corn starch, salt, leavening (sodium aluminum phosphate, sodium bicarbonate), dried whey, spices, garlic powder, onion powder, flavor (maltodextrin, salt, sugar, silicon dioxide, garlic powder, spices, soybean oil, natural flavor, extractives of turmeric, hydrolyzed corn gluten)), General Tso’s Sauce (GENERAL TSO SAUCE (water, sugar, soy sauce (water, soybeans, wheat, salt, sodium benzoate; less than 0.1% as preservative), cornstarch, distilled white vinegar (distilled vinegar and filtered water), soybean oil, flaxseed, sesame oil, salt substitute (sodium chloride, potassium chloride, sodium gluconate), caramel color, dextrose, xanthan gum (xanthan gum, polysorbate 60), sodium benzoate, disodium inosinate/disodium guanylate, garlic extract (natural extractives of garlic with polysorbate 60, propylene-glycol, water, phosphoric acid, and polydimethylsiloxane [anti-frothing]), ginger extract (natural extractives of ginger with datem and canola oil), disodium EDTA, contains Soy, Wheat), SRIRACHA HOT PEPPER SAUCE (chili, sugar, salt, garlic, acetic acid, potassium sorbate and sodium bisulfite as preservatives, xanthan gum. Contains sulphite (sodium bisulfite)),).), Jasmine Rice (WATER, JASMINE RICE (jasmine rice)), Hakka Noodles (HAKKA NOODLE (enriched wheat flour (flour, niacin, reduced iron, thiamine mononitrate (vitamin b1), riboflavin (vitamin b2), folic acid), water, wheat gluten, soybean oil, salt, fd&c yellow #5 & #6 contains: wheat), SESAME OIL (100% pure sesame oil)), Steamed Fresh Broccoli (BROCCOLI FLOWERETTES)

ALLERGENS: Milk, Eggs, Wheat, Soybeans, Gluten, Sesame

GOALS OF OUR SYSTEM

- User-centered design
- Speed
- Utilizing newer cloud technology
- Centralized data
- Built with extensibility in mind
USER-CENTERED DESIGN
- Our stack allows for significantly better latency
  ○ Firebase Backend
- The user interface is built with speed in mind
- Our data is entirely centralized
EXTENSIBILITY & FUTURE WORK

- Ultimate goal is to replace the current dining hall menu system & implement GrubHub directly
- Barcode Scanner
- Expand to other schools
VTURCS

Industry (Marston) award 3rd place
- Attended VTURCS on 04/24/2022
- Presented our projects to students, faculty, and judges
- Received helpful feedback for future directions
ACKNOWLEDGEMENTS

Client: Deborah Nichols & Candice Matthis
Supervisor: Dr. Edward Fox
Advisor: Ashley Foster
REFERENCES

1. https://vt.edu/about/facts-about-virginia-tech.html