CSC 648 Milestone 1

Team 3

Debuggers

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Introducing *FraGrant*

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Executive Summary

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Students in college have a lot going on in their lives. From internships and going to the gym, to listening to music and going to work, their lives are filled to the brim with complex day to day tasks. Oftentimes it's hard for them to focus, get a good night's sleep, or even keep up with routine maintenance. Our engineers have developed a solution to this problem. Introducing *FraGrant*, a fragrant line that will give students the ease to perform at their highest abilities. *FraGrant*, with just one spray, will give students a good night's sleep, the ability to retain any information, or even a full gym workout in as little as a couple minutes. This project proposes a modern and healthy solution to bring ease to their lives so they can carry out their day to day activities. This website will be a one-stop shop to make sure they are at their best performance levels. It will cater to athletes, busy bees, and even indecisive students who need a "randomize" button to pick out their first fragrance. With over 30 scents, *FraGrant* will be a must-have addition to every college student.

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Personas And User Stories

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ID 1: Bob Finch - Sleep Deprivation - Priority 1

- **General behaviors:** Attends college, Goes to work
- **Interests:** Applying coding tutorials, Editing configuration files
- **Skills:** Multitasking, Energy to finish work or assignments, Privacy
- **Pain Points:** Getting adequate sleep
- **Residency:** Lives in a dorm in his school
- **Income level:** $120,000 every year from working and help from family

Actor: Computer science college student (Bob), Professor, Product

Description: Bob is a computer science college student, living in a dorm in his school. He is enrolled in six in-person classes with a part-time job, and sometimes must work until 2 a.m. past midnight to complete his assignments. During these times he is sleep deprived because he needs six hours of sleep to feel refreshed, but must wake up at six to get ready to start attending his classes. He is often reprimanded by his professors because he ends up falling asleep in the middle of the class, which negatively affects his participation grade. Bob is frustrated because he does not want to change his schedule because it's the only way to a timely graduation.

Visiting the e-commerce website and searching for 'staying awake' will allow Bob to quickly find a fragrance with the scent 'awake' and help with his frustration. It will help him by mitigating the effects of his sleep deprivation. That is, when he sprays the fragrance on his body four times, his energy will increase, as if having slept for 2 hours. This means Bob will no longer fall asleep in class, given he does not sleep past 2 a.m., and thus will no longer be reprimanded by his professors; therefore, his timely graduation will become attainable.

ID 2: Eve Smith - Social Anxiety - Priority 2

- **General behaviors:** Attends college, Listening to music
- **Interests:** Being attentive to what's going on around her, Talking to family members, Privacy
- **Skills:** Finding small details in assignments
- **Pain Points:** Social anxiety, Talking with strangers
- **Residency:** Lives at home with parents
- **Income level:** $105,000 every year with help from family

Actor: Physics college student (Eve), Group project team members, Product

Description: Eve is a physics college student who is taking seven classes, five are in-person and two are online, lives at home with her parents, and has a thirty minute commute to and back from school. She has been assigned a group project in her physics class which is worth a significant portion of her grade. Her role is to be the mediator between the team leader and the rest of her group. Eve battles with social anxiety and so has trouble being vocal; however, her role requires her to be vocal to make sure the rest of the team members are getting along. Eve is fearful because she knows she will receive a low grade for her role if she does not overcome her social anxiety. Moreover, she does not want a counseling solution.

Inputting the search query 'social anxiety' on the e-commerce website will efficiently lead Eve to discover the fragrance with the scent 'relax', which will help Eve because it will comfort her when she's around strangers. Specifically, the induced comfort from spraying the fragrance upon her two times will give her the courage to communicate with her team. Therefore, her fear of receiving a low grade for being ineffective in her role will decrease and her aversion to a counseling resolution will be satisfied.

ID 3: Alex - Unpleasant Aroma - Priority 3

- **General behaviors:** Attends college, Goes to internship
- **Interests:** Seeing how chemicals react to each other, Doing as much as he can with time, i.e., not taking breaks, Privacy
- **Skills:** Multitasking
- **Pain Points:** Time management, i.e., miniscule buffer between activities
- **Residency:** Lives in own apartment near school
- **Income level:** $115,000 every year from working and help from family

Actor: Chemistry student (Alex), Classmates, Product

Description: Alex is a chemistry student taking five physical classes and interning for a chemistry company. He lives in an apartment which is a thirty minute drive away from his school and his internship. His classes and internship require consecutive attendance; specifically, his work ends thirty minutes before his first classes of each day of the week, so he only has time to change apparel before entering his classes. However, he has noticed that upon entering his first classes his classmates near him make a face of disgust. He knows that it is an unpleasant aroma because his internship requires interacting with various chemicals that do not have a pleasant smell. Alex is concerned because the situation disrupts his ability to form relationships with his classmates, but his commute right before his internship doesn't allow

him to shower before entering the class; moreover, as a solution he does not want to drop any of his first classes or the internship since it will disturb his resume and a timely graduation.

Searching for 'bad smell' on the e-commerce website will rapidly lead Alex to discover the fragrance with the scent 'neutralize'. This will reduce Alex's concern of being able to bond with his fellow classmates due to his aroma since the product will neutralize his smell. That is, when he sprays the fragrance upon his clothes five times, the unpleasant smell will disappear. But, the caveat will be that he will not smell like anything.

Data Definition

Users: Customers that are undergraduate stem students.
- → Student ID
- → Password
- → Email
- → Age
- → Courses
- → Grade Level

Orders: Type, count, and product users are buying
- → Order Number
- → Order date and time
- → Number of items ordered
- → User email address
- → User Phone number
- → User physical address.
- → User special instructions.
- → User Name
- → Payment-Method

Products: Customers can checkout the product that is for sale.
- → Product ID
- → Product Description
- → Product type
- → Product Date
- → Product Time
- → Product Transaction ID

Functional and Non-Functional Requirements

Functional Requirements

1. User login - Customers should be allowed to login using their credentials.
2. User login - Password should be hidden from others while typing.
3. User Register - System will be able to verify and validate information from previous use.
4. User Register - System must encrypt the password
5. Registered user - only a registered customer can purchase items.
6. Users should be allowed to browse the site as a guest.
7. Users should be allowed to add to cart as a guest.
8. Users should not be allowed to checkout without signin/signout.

9. Paypal or Stripe shall be supported as a payment method.
10. Customers are allowed to customize their item.
11. Users should be able to view the product.
12. Users should be able to add products to the cart.
13. Users should be able to remove products from the cart.
14. Users should be able to view their order.
15. Users should be able to delete or cancel their order.
16. Users should be able to edit their profile.
17. Users should be allowed to purchase products.
18. Users should be able to check the history of the products they were viewing?
19. Edit profile - Users should access and add to their profile.
20. Users should be able to terminate their account.
21. Users should be allowed a wish list.
22. Users should be allowed to access past orders.
23. Users should be allowed to access and manage their payment options.
24. Users should be allowed to view all transactions.
25. Users should be allowed to manage their address.
26. Users should be allowed to increase the quantity of a product in their carts.
27. Users should be allowed to compare different products.
28. Users should be allowed to save a product for later from the cart.
29. Users should be allowed to sign out.
30. Users should be allowed to browse best sellers.
31. Users should be allowed to browse new releases.
32. Users should be allowed to buy again.
33. Users should be able to track their order.
34. Purchase - Every purchase should have an order number.
35. Users should be able to create their own product.
36. Users should be allowed to receive a random product.

Non-Functional Requirements

1. Compatibility
   ◆ Should be compatible with all browsers such as Safari, Chrome, Firefox, Brave, etc
   ◆ Should be compatible and usable on smartphones, tablets, and any size monitors
2. Development Requirements
   ◆ Data shall be stored in the Mongodb database on Amazon AWS
   ◆ Data should be utilized by Node Js and React for the backend and frontend
3. Usability
   ◆ The website should be very easy to use and to navigate around.
   ◆ Everything should be intuitive for the user.
   ◆ All the elements on the website should be properly aligned and styled so it is easily usable
   ◆ The backend should have no bugs so all the functions should be working
4. Development Requirement
   ◆ The code in the master branch of our team's github repo should be well maintained and guarantee working at any time.
   ◆ The code should be properly commented and be written that is easily understandable
   ◆ Unit tests should be useful and have a purpose
   ◆ Everybody should be commenting their git pushes to the main branch
   ◆ The development branch should be reviewed before being pushed to the main branch
5. Performance

◆ The website should run smoothly and the render time should be quick

6. Security

◆ All data should be secured and sensitive information should be hashed in the database

7. Scalability

◆ The website should be designed to enable future implementations at ease

◆ The website should be coded dynamically and to reduce "hard coded" code. There should be hardly any static code.

8. Manageability

◆ The code should be written and the github should be organized in a way where it is easily manageable and maintainable overtime

9. Readability

◆ The code should be readable to the developers and the website should be designed in a way that can be readable to the users

10. Reliability

◆ The code should have minimal issues and bugs in it so the website is reliable to use and makes it more efficient

11. Portability

◆ The website should be able to be used on all platforms and the code should be easily transferred to other IDE's. It will not conflict with other browsers or if operating systems

Competitive Analysis

Competitors' Features	Amazon	Ebay	Craigslist	Ours
Product Comparison	It is up to the user to find the right product by viewing each product and reading their descriptions.	Just like Amazon, no side-by-side product comparison.	**N/A..** It's up to the user to read each product description.	We will offer a side-by-side comparison option, allowing users to compare two products' descriptions before making a final decision.
Product Customization	Not all products are customizable. The user can customize the color of certain products before purchasing.	Savings offered when buying products in bulk.	**N/A..** Sellers will usually provide a picture representing the product being sold.	Users will be able to select from different bottle designs and specify product sizes.
Product Recommendation	"Consider a similar item" feature recommends similar items to the user on the product page.	Homepage features slides that advertise the best deals. Also shows similar products, much like Amazon.	**N/A..** Users either find what they're looking for or they must expand their search zone.	With the click of a button, a random product will be showcased to the user.
Customer Ratings	Products rated out of five	Similar to	**N/A..** Sellers	Follow Amazon's design

	stars,and customers can write reviews if they choose.	Amazon, but also shows the quantity of each product that has been sold.	establish credibility by selling items frequently.	and provide a rating out of five stars, as well as supporting written customer reviews.
Checkout	Amazon has an online shopping cart, as well as the ability to buy an individual product while viewing.	Shopping cart similar to Amazon's.	Users must schedule a secure way of purchasing a product from a vendor.	We will utilize the virtual shopping cart feature.

Our top competitor is Amazon, and we plan to take inspiration from their lack of 'Product Comparison' features and showcase two products side-by-side on our website so users can save time and read product descriptions simultaneously to determine which one is the best option. For our 'Product Customization' feature, we will allow users to select a fragrance container of their choice from our list of options, as well as providing the user the ability to specify their desired portion size for each fragrance. With our 'Product Recommendation' feature, we will recommend a random product of ours to the user at the click of a button, something that Ebay and Amazon do by showing their top deals of the day on their homepage. Users might not be interested in the products advertised in the top deals of the day section, which then takes up room on Amazon and Ebay's homepage for no reason. Craigslist is an ecommerce website that almost anyone can make a transaction or sell products on, which is why the website lacks many features and follows a simple design of vendor buy/sell transactions. Its success however comes from their high traffic, and ability to shop locally, or state-wide which will also be a feature on our website.

High Level System Requirements

Server Host: Amazon Aws ec2 linux
Operating System: Windows 10 21H2
Database: Mongodb v2
Web Server: AWS
Server-Side Language: JS
Web Application Framework: Express nodemon mongoose
Additional Technologies: cors concurrently
IDE: VS code 3

Team

Name	Role
Chris Solo	Backend Lead
Shahriz Malek	Front end lead
Aisha Asif	Scrum Master
Ruqaiyah Angeles	Team Lead
Mandy Noto	GitHub Master
Ahmed Ballal	Universal Helper

Checklist

Action Item	Progress
The team has set a recurring meeting that worked for everyone's schedule	DONE
The team roles were chosen and/or voted on, then went over each role and their responsibilities	DONE
SW team assigned to work on the software stack and worked on the research	DONE
Github Master was assigned to set up the GitHub and share it with the team, professor, and grader	DONE
Reviewed M0 requirements and set deadlines for each team member	DONE
Met up to go over progression of each part and adjusted the workload for each individual team member	DONE
Reviewed M1 requirements and divided the work amongst	DONE
Assign everyone homework for M1 and to come up with website ideas	DONE
Assign each person an individual part with the M1 report	ON TRACK