

Final Project Proposal — Shopping without version

Group: Javabeen

Abstract:

We found that all the online shopping websites are presented visually, which means people with visual impairment will have difficulty to browse and experience online shopping, they may face such problems, like it is hard for them to use search engine and inconvenient to shop online. Also, as an invention mostly based on visual presentation, internet hasn't been friendly on visual disables. A better way must be created for those people.

Our desire is to create an application that can help people without sight to shopping through internet. Technology has been so advanced that every sense can be simulated using low frequency level current on different sensory organs. Thus, there is no reason that visual disables cannot feel and get a sense of a product behind the screen. We intend to utilize this technology to build an online shopping store for disables. By storing all the stimulation currents information of every product and retrieving it to human body through the equipment, we can make online shopping without sight become true.

The greatest outcome of this product is how it can improve the living condition of the disabled. It has always been a problem to shopping when you lost some part of body function, and online shopping would do the trick except it is impossible for the disabled to feel and have a conclusion towards products when they lost their sight. With our application, this whole thing is going to change, and it will affect the way in which disabled people lives. All the quality or texture of our products will transpire to simulate signals in our database. Once you wear the equipment, and when you are interested in some specific product, it will show you the different aspects of this product, for instance, the smell of this product, the quality of its texture, and all of it will be presented by the equipment, which will be activated by the different signal information from the database.

Project Objective:

We found there is an advanced technology that to stimulate humans' senses by low frequency current signals, so that the users could have some particular and real feelings. So we want to combine this kind of technology with the internet. On our website, the blind can shop by voice command, they just need to say the name of product they want to buy, then the search assistant will translate voice into text for search engine and show the searching results. And then through our algorithm, each product's features will be translated into different current signals. Then the blind will receive signals from helmet and touching pad, so that they could feel how the product is like in fact.

Project Scope:

The project name is "Amazon for visual disables". Our shopping web project will contain a wild category from utilities to clothes, and each of item will have some qualities based on its category. There will be four kinds of sensibility based on four kinds of human sensory organ, smelling, listening, feeling and tactile sensation. Those four kinds of sensibility will each corresponding to four different tables in database and stores all the information which will interact with the equipment. This project will be completed by Spring semester, 2017 and aims for eliminate the inconvenience for visual disables shopping online.

Team Information:

Team background: Computer Systems Engineering

Member information:

Pengyu Chen: User interface (HTML, CSS, JavaScript, JQuery, Java)

Ruofan Lyu: Database (MySQL, Java, Adobe Access)

Huizhe Wang: Database (MySQL, Java, Adobe Access)

Tianyu Wang: Back-end algorithm (Java, SpringMVC, algorithm)

Xiajie Zhang: Back-end algorithm (Java, SpringMVC, algorithm)

Required data:

Sample list of data attributes:

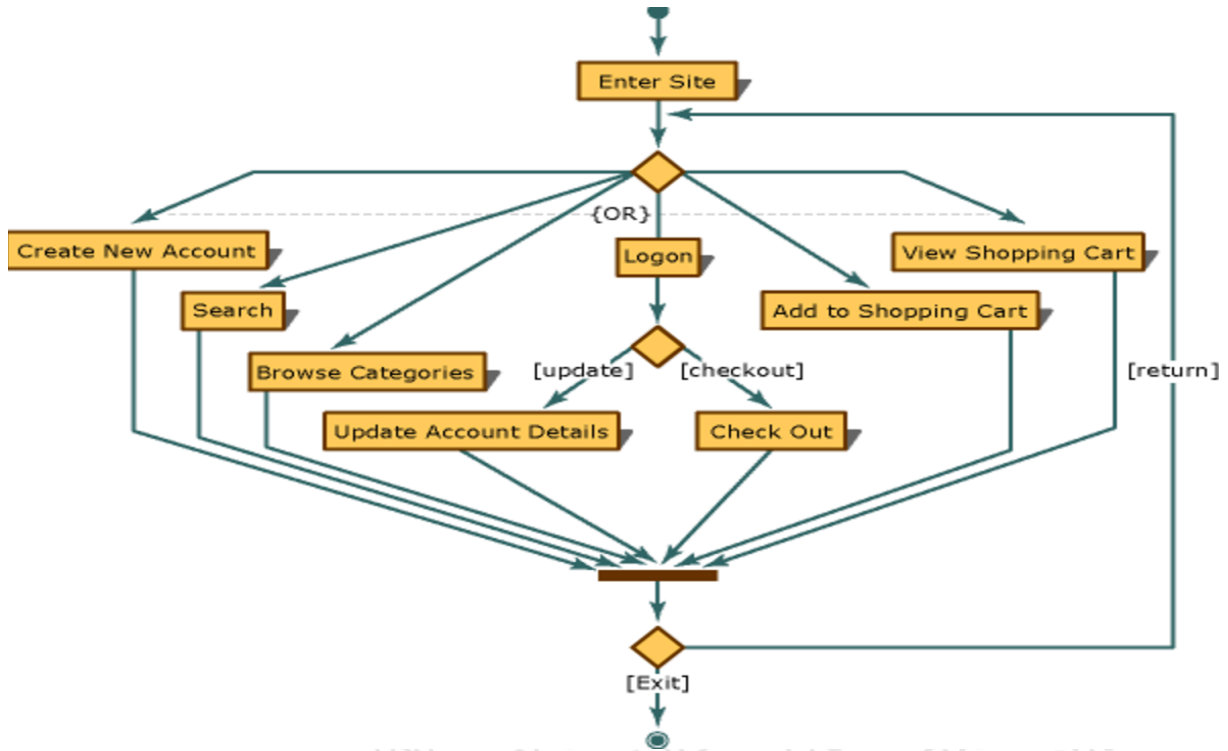
For Tactile sensation table, there will be frequency attribute which will record the frequency of low frequency current that can be used on the touch board to simulate the texture of a specific product.

For Feeling table, there will be a color attribute which is related to a Color table to corresponding color.

For smelling table, there will be a smell attribute that will stores the data that describes the smell of the product, which is corresponding to the smell storage section of the equipment.

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Top level activity diagram:

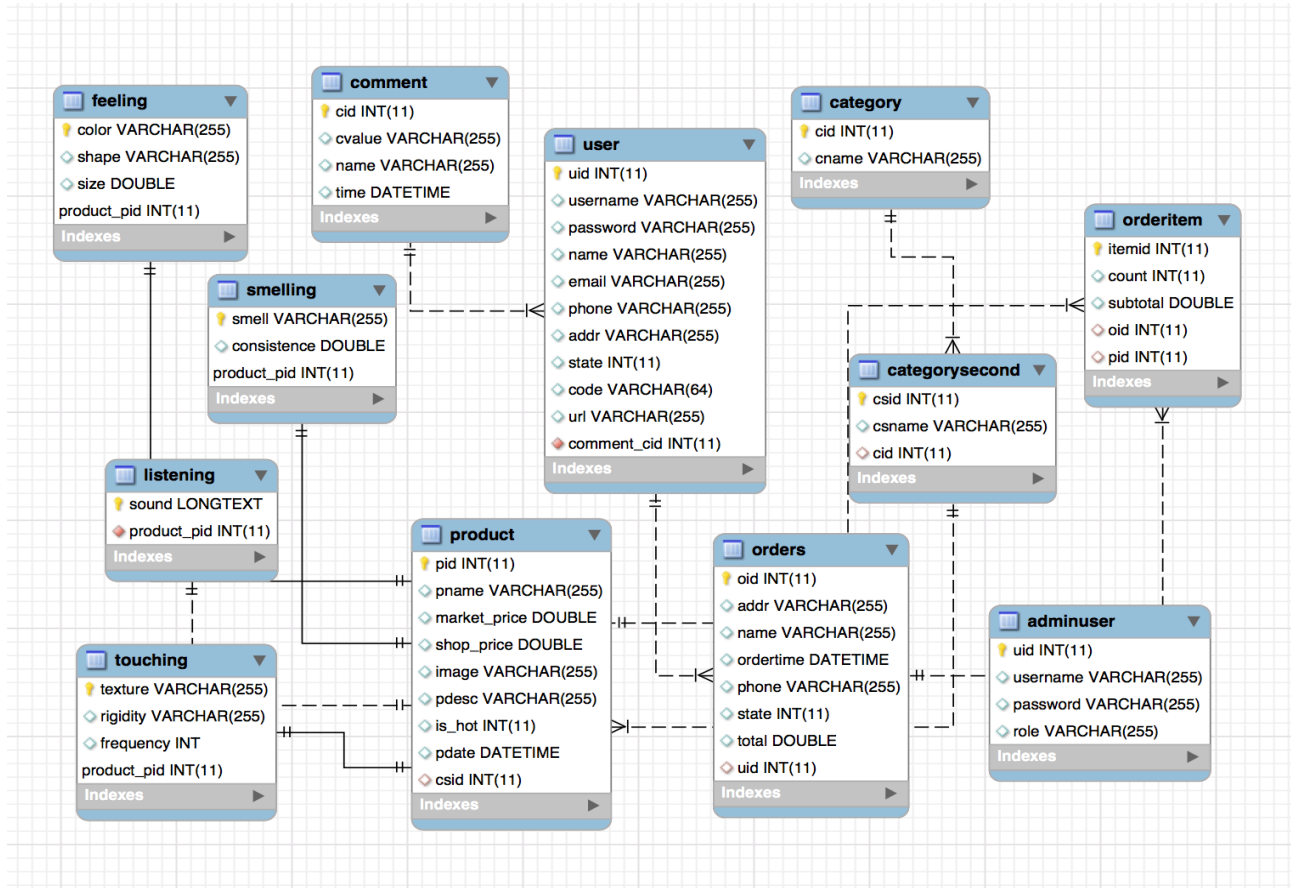


After entering the website, there will be plenty of functions for user to choose. For those who doesn't have an users account, they could create a new account for the site and be able to access further functions. Current customers for the website could login to the system by input their user information.

Basic functions for a shopping website such as searching for a product, browsing a typical product by its category, adding something into the shopping cart and viewing the cart are all included in our project. After login, users are able to view and update their own account details, for example, they may change their shipping address if they have moved to somewhere else. Also, customer who has any merchandise in the shopping cart could purchase it if he wants.

All these processes are based on the use of our database, information interaction is implemented while processing.

Data ERD:



As it shown in the diagram, there are 12 entities with their own specific attributes.

“user” entity includes the attributes: UID, username, password, name, email, phone, address (addr), state, zip code (code), url, comment CID (comment_cid, foreign key)

“product” entity includes the attributes: PID, product name (pname), market_price, shop_price, image, product description (pdesc), recommend product (is_hot), product upload date(pdate), second-level category (csid, foreign key)

“orders” entity includes the attributes: OID, address (addr), name, order time, phone, state, total, user ID (uid, foreign key)

“orderitem” entity includes the attributes: itemid, count, subtotal, order ID (oid, foreign key), product ID (pid, foreign key)

“comment” entity includes the attributes: CID, comment contents (cvalue), name, time

“category” entity includes the attributes: cid, category name (cname)

“categorysecond” entity includes the attributes: CSID, second-level category name (csname), category id (cid, foreign key)

“adminuser” entity includes the attributes: UID, username, password, role

“feeling” entity includes the attributes: color, shape, size, product_pid (foreign key)

“smelling” entity includes the attributes: smell, consistence, product_pid (foreign key)

“listening” entity includes the attributes: sound, product_pid (foreign key)

“touching” entity includes the attributes: texture, rigidity, frequency, product_pid (foreign key)

Assumptions:

According to the objectives of our website, we need the assistance of the third-part software, a voice searching is needed because the blind could transfer their voice to text command, then the website could get the command correctly and show the right product to the blind.

We also need write an algorithm to calculate the relationship between current signals and product information. Because we need transfer particular features to these signals for the blind. Of course, a wearable device is indispensable. Such as helmet or a touching pad. Users could feel the shape, size and odor of products with them.

Constraints:

We know that the activity in the brain varies from person to person. So the current signal has to be adjusted for each user. Moreover, the device is immersive now. We need a company to produce the machine to match our website. And it is a newer website in a different way than ever before, so we need time to popularize it.

Integrated Master Schedule/Milestones:

Mar 13, 2017 ~ Mar 20, 2017	Relational structure and Entity relationship: draw the ERD and specify the data structure of our system
Mar 20, 2017 ~ Mar 27, 2017	User register and Pojo Objects: build user registration page and facture entities as pojo objects.
Mar 27, 2017 ~ April 3, 2017	Adding items and Order function: put necessary product items with properties into the system, and construct part of functions needed.
April 4, 2017 ~ April 11, 2017	Order function and check out function: finish the other order functions and construct check out function for our system.
April 11, 2017 ~ April 18, 2017	Front-end building: build the front-end of this website and improve the whole system performance.
April 18, 2017 ~ April 25, 2017	Testing and Debugging