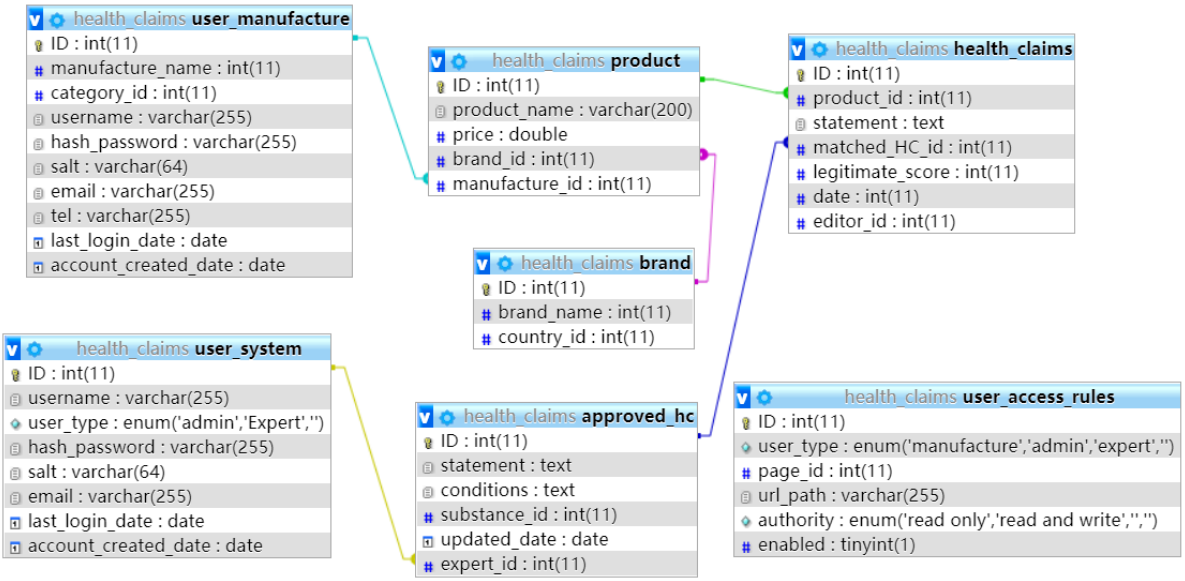
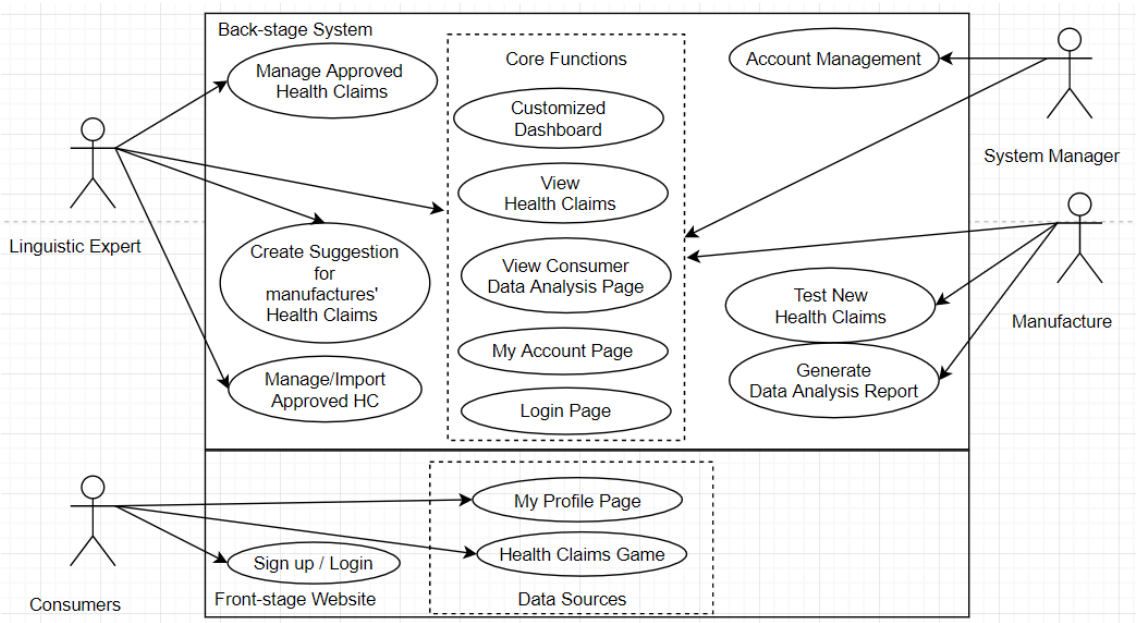
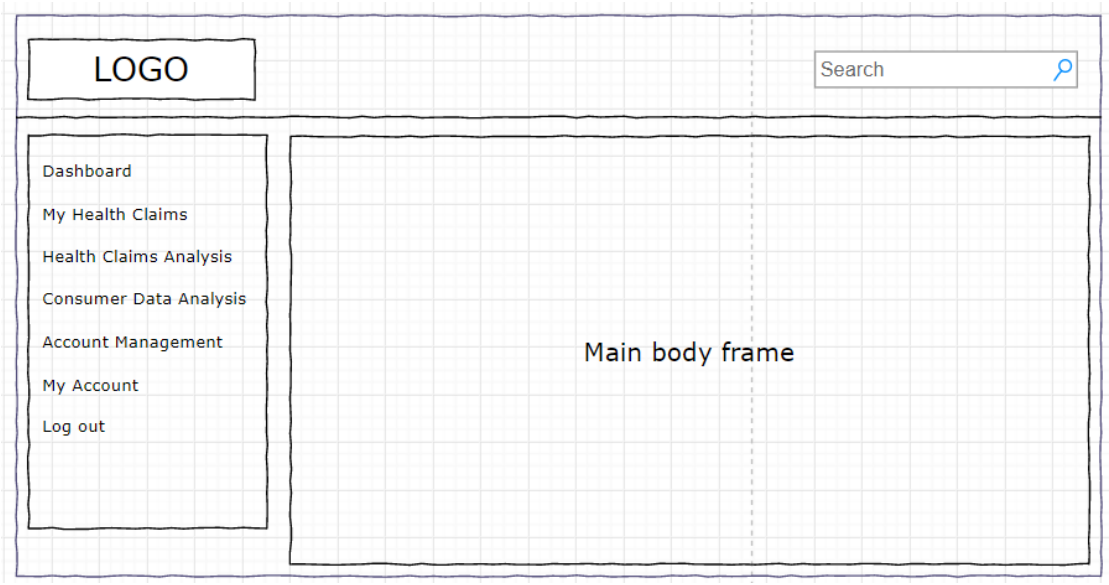
!!! Health Claims Management Database



Use Case Diagram





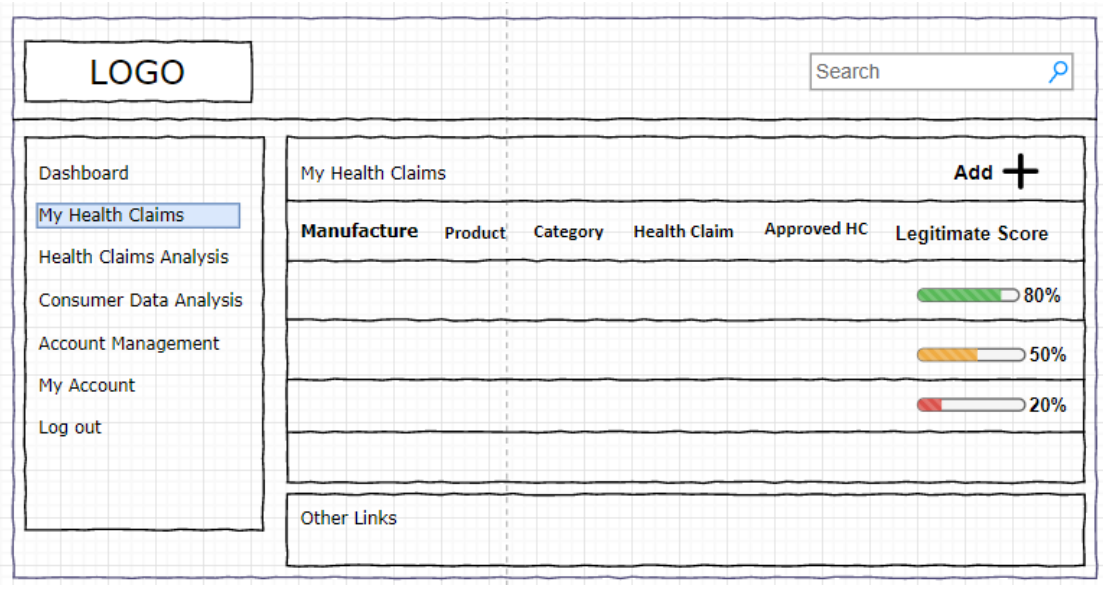
The left side is a navigation bar, and there is a search box on the top right corner, which can be used for the full-text search in the site. When users click the navigation button, only the right main body frame will be changed (ajax might be introduced).

- Dashboard page (all user)
    - key indicators and figures can be displayed, it could be customized by different users for different purposes
- Account management page (only admin user)
    - Manage all the account, including add, update, delete and disable account
    - Roles (user group) management function. There might be roles like “linguistic expert (admin)”, “system manager” and “manufacturer”
- My account page (all user)
    - All users can use this page to update their profile and password

Account management page and my account page are the typical design for most of management systems.

The following section will mainly describe functions in the “My health claims”, “Customer Feedback” and “Analysis Report” pages, which are designed for manufacturer users.

- **My health claims**

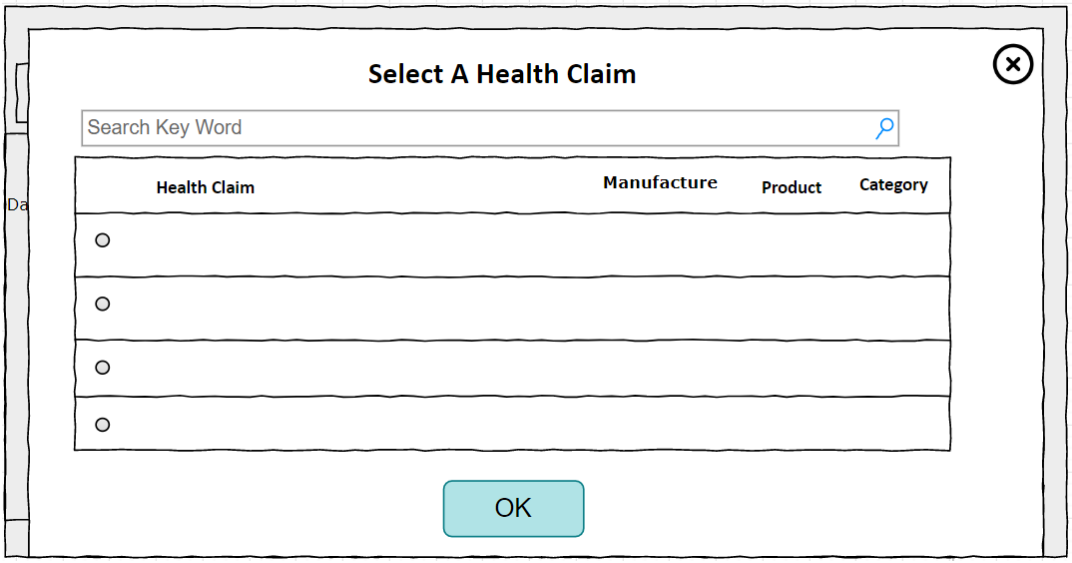


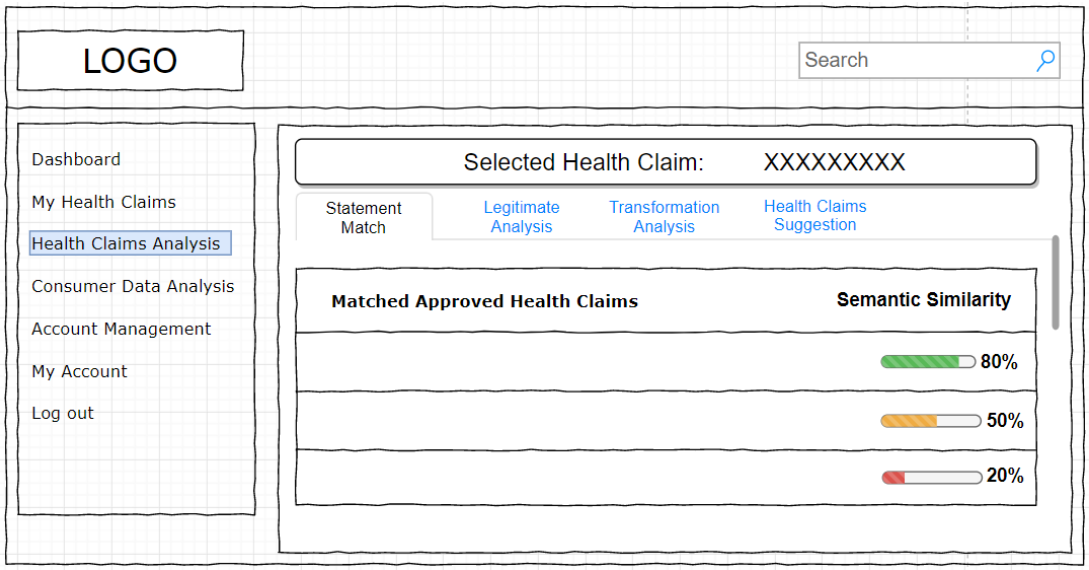
Functions: (user) Add, delete, update health claims; (system) show all health claims and relevant information

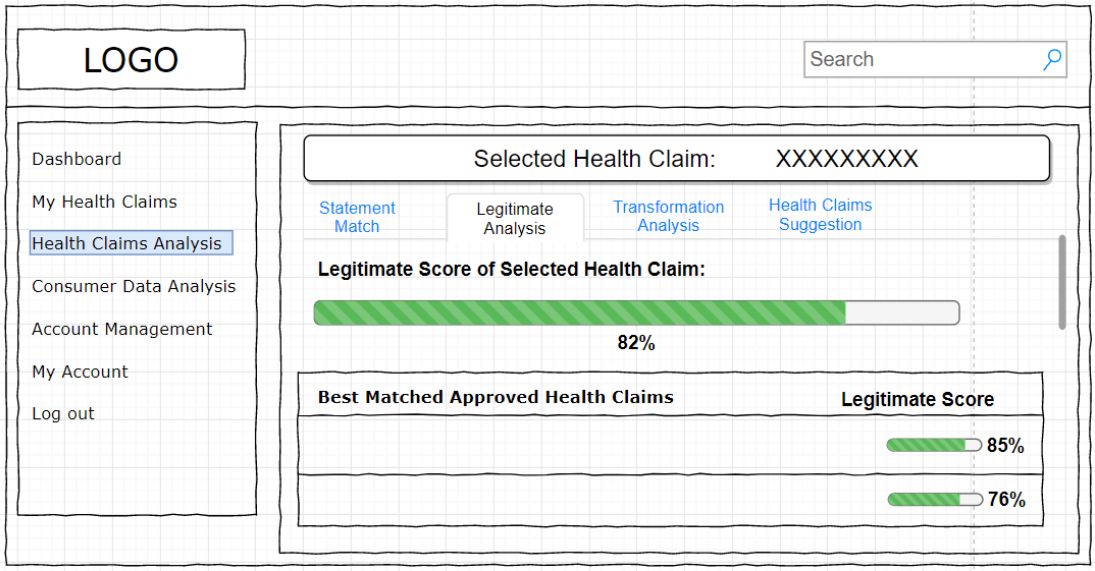
Heal Claims Table:

Manufacture ID, Name, product ID, product name, category, health claim ID, health claim content, picture etc.

- **Health Claims Analysis**




LOGO
Search
Dashboard
My Health Claims
Health Claims Analysis
Consumer Data Analysis
Account Management
My Account
Log out
Selected Health Claim: XXXXXXXXX
Statement Match
Legitimate Analysis
Transformation Analysis
Health Claims Suggestion
Matched Approved Health Claims
Semantic Similarity
80%
50%
20%


LOGO
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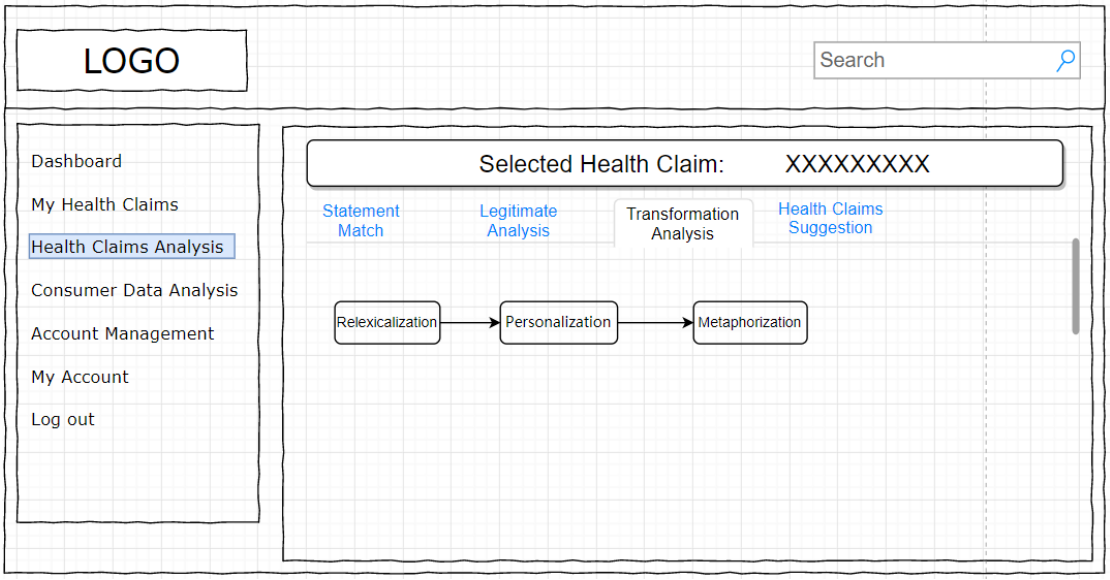
My Account
Log out
Selected Health Claim: XXXXXXXXX
Statement Match
Legitimate Analysis
Transformation Analysis
Health Claims Suggestion
Legitimate Score of Selected Health Claim:
82%
Best Matched Approved Health Claims
Legitimate Score
85%
76%


LOGO
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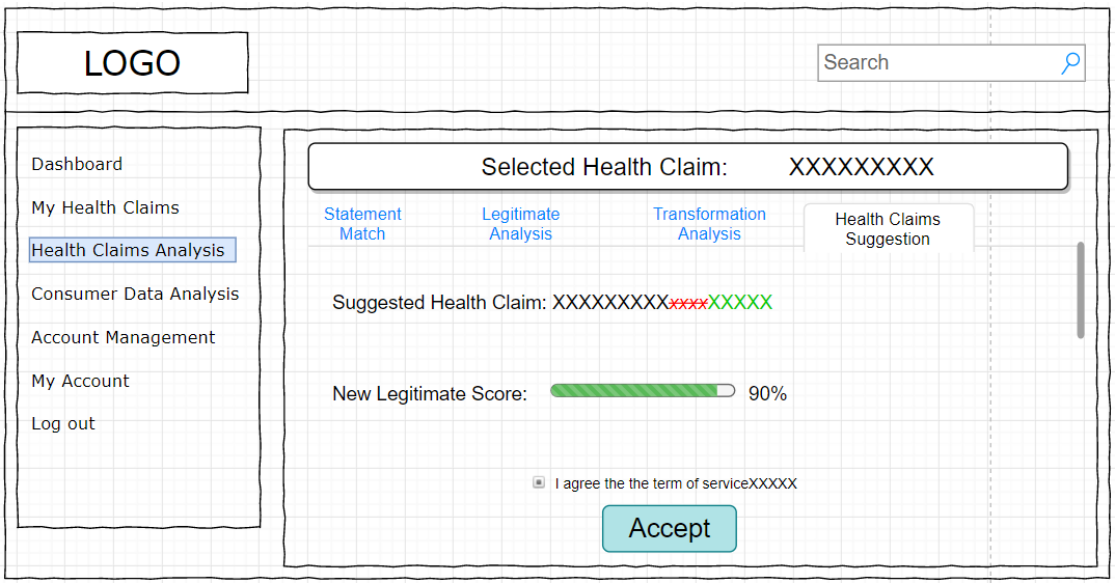
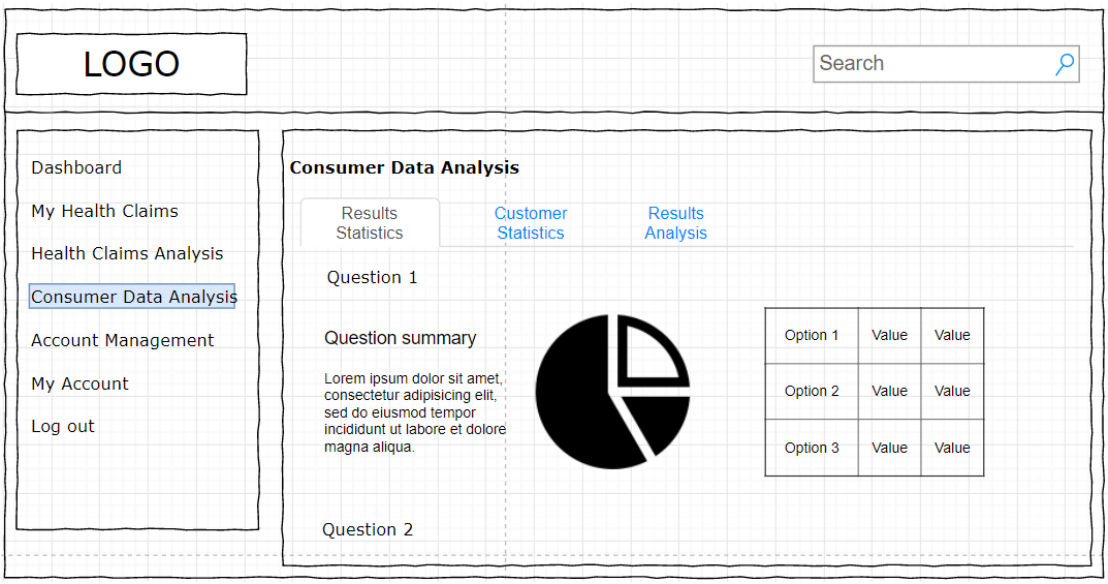
Legitimate Analysis
Transformation Analysis
Health Claims Suggestion
Relexicalization
Personalization
Metaphorization



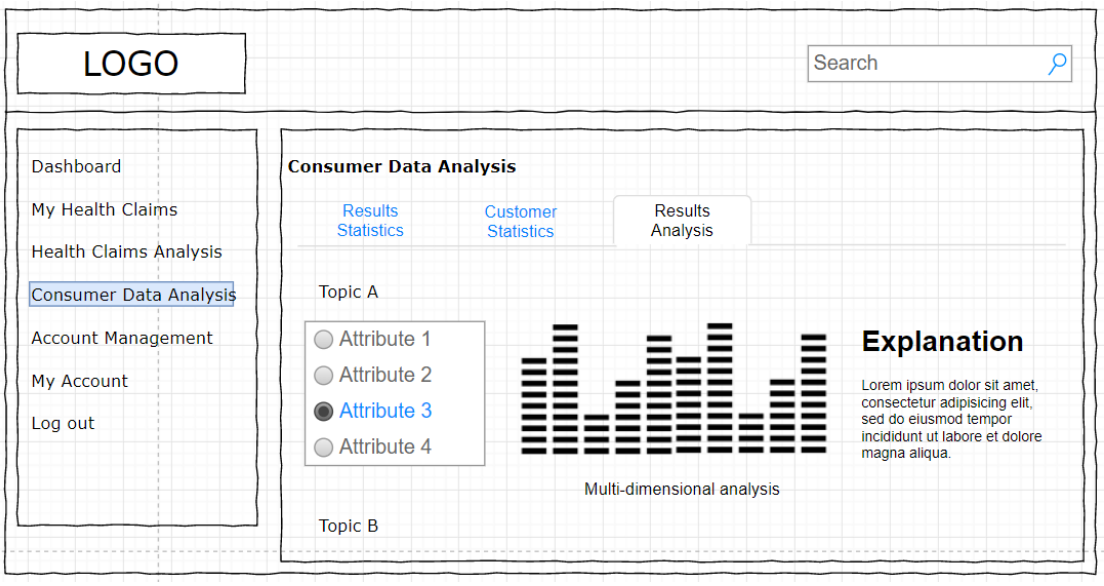
- (user) Select (a health claim to conduct analysis from a list) and show details
- Find scientific health claim: (System) Automatically Find related approved scientific health claim
- Legitimate analysis: (System) Analyse the legitimate of health claims such as semantic similarity of both kinds of health claims, show with a legitimate score.
- Transformation analysis: (System) compare the health claim and generate transformation annotation graph.
- Health claim suggestion: (System) suggest how to paraphrase the sentence
- (user) accept suggestion or not OR write their own revised health claim and save to the table

- **Consumer Data Analysis (for the role of linguistics and manufactures)**
  - **Basic Statistics** of consumer data (demographic data, age, location, language, gender, health condition, health goal)
  - **Linguistic analysis:** attractive wording, phase, sentence type about benefit or other things.
  - **Other finding**: It records the game results and demographic information about consumers



- It has three tab/ sections. In the results statistics, it aggregates data by each game question, and uses pie chart to shows proportion of each option, and the table can also show the original data and statistics data. Each question and its options will be summarised next to the chart. We might add frequent pattern analysis function. For example, most users select option A in questions 1 also select option C in question 2, so it would be a frequent pattern. Those patterns can be described in a table, which shows relationships between two or more questions.

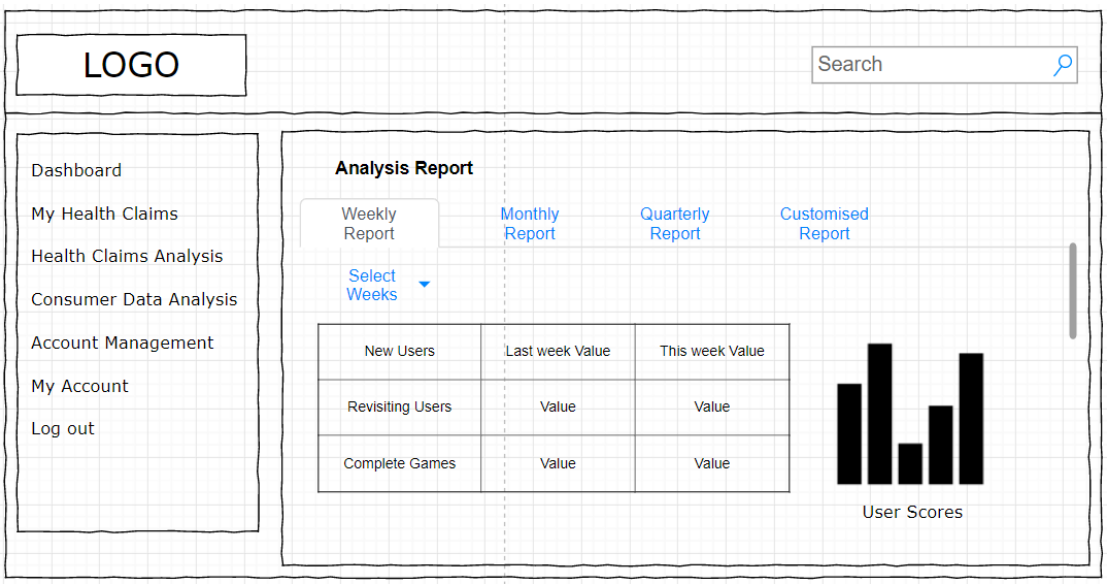
- In the customer statistics part, it shows demographic information about resisted users, which might include ages, countries, first languages, occupations, and genders. It also uses a line chart to show the users access traffic against time.



- In the results analysis section, it aggregates data by different topics, and it allows uses to select attributes to slice data for multi-dimensional analysis. For example, users can create a dynamic bar chart to view users' performance level against ages. By clicking different attributes, such as ages, occupation, country, the chart will automatically be refreshed. In addition, there are few texts on the right to explain and highlight the max/min data or the distribution.

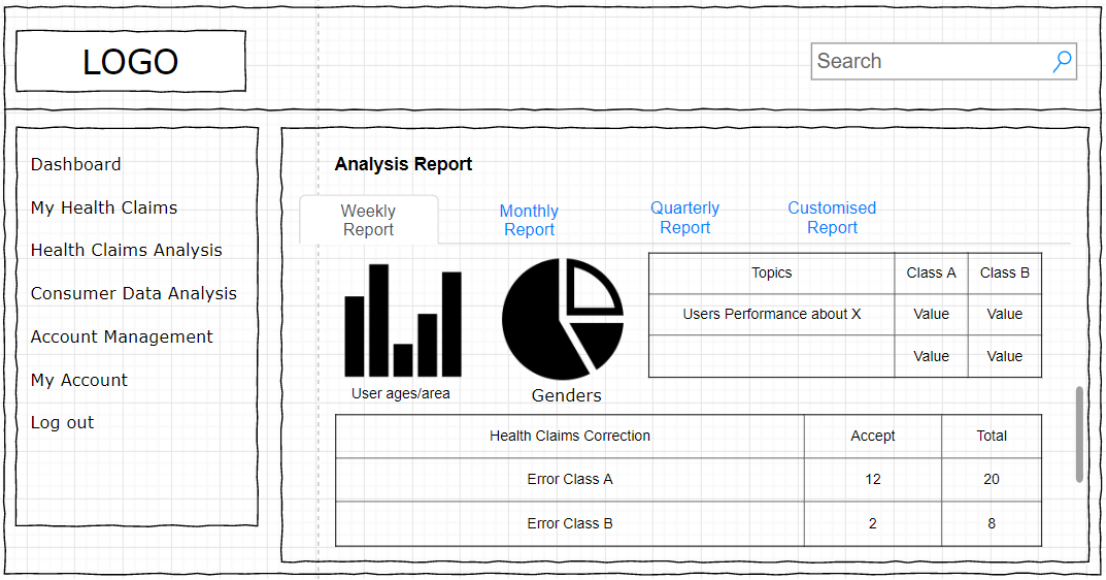
- **Analysis Report (optional)**

Input: online testing data

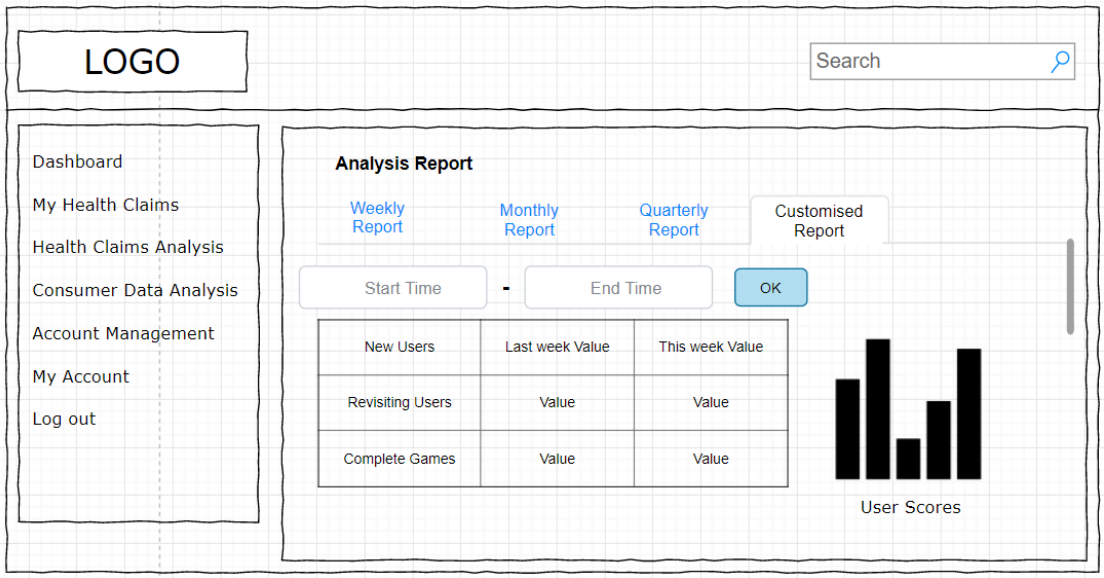


- It shows aggregated data from different time perspectives. The weekly, monthly and quarterly reports sections/tabs will have similar content, except the time selection drop down buttons are different. The drop-down buttons allow users to select different time period, and the data will be loaded into the tables and charts below. It can count the revisiting users, new users, games completions,

question answered data etc. It shows both this week value and last week value for comparison. Line chart may also be introduced to demonstrate the trend among time series.



- Users can scroll down the report, and it will show the users performance data against different users' demographic attributes, using bar chart, pie chart and plain table. In addition, it shows the updates about health claims correction, such as how many statements are added or revised, and count error health claims numbers for each class. (As we might classify error health claims, and assign different labels to the correction, such as "substance match wrong benefit" and "exaggeration")



- In the customised report section, uses can input a period of time using the two input boxes. After clicking the OK button, the system will subsequently generate the report

Optional Manufacture functions:

1) social media analysis (crawl data from twitter or other social media, conduct sentiment analysis)

2) Health claim online testing: get direct feedback of a health claim from consumers

Consumer side:

More VR games, social function, personalization, VR based shopping suggestion

Questions:

- What do the manufacturer users really need to know from the report?
- Do we need a batch health claims correction function?
- How could manufacture customized a user-test for a new health claims statement? Do we need a questionnaire or a new game in our system?