Project Proposal:BitOHealth

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Introduction

In modern society, as a byproduct of the digital age, there has been an increase in people leading busy and mismanaged lives prioritizing one aspect while disregarding others such as health. Simple habits that improve the quality of life and longevity are disregarded because of the complexity of the health and nutrition industry. Our proposed web application BitOHealth is a tool that simplifies the health and nutrition industry so that users aren't intimidated to take their health seriously.

Objectives

The objective of BitOHealth is to provide an easy-to-use web application that guides users to prioritize their basic health by centralizing many factors into one space. It is not a replacement for healthcare or treatment; however, it allows users to consistently keep track and stay updated on their health. A qualitative study conducted under The National Center for Biotechnology Information (NCBI) examined the reasons behind the avoidance of seeking medical care and 15.6% of the participants reported being too busy, the second-highest reason right after cost being too expensive [1]. Moreover, 3.3% of the reports were concerned with the qualities: laziness, procrastination, stubbiness, and forgetfulness [1]. BitOHealth aims to convenience these people by providing them with organizational features as well as basic solutions to their health and nutritional concerns.

Product Vision

For the people who are leading busy or mismanaged lives, BitOHealth is a web application that provides organizational and health/nutritional tools that aid in prioritizing health and bringing awareness to concerns. In the future, our app will look to work directly with services such as gyms, pharmacies, and trainers to offer our customers discounts or coupons on their services. Our app will also look to add communication to users to nearby people with similar health interests or verified experts such as doctors to help keep them motivated.

Target Customers

- Busy Individuals - Those with hectic schedules tend to allow various matters in life to take over, leading them to be oblivious to overall health.

- Unorganized Individuals - Holding all valuable medical information in one place can give those with chaotic lives a sense of relief. Setting reminders to ensure consistent completion of goals such as taking medications, going to appointments, etc.

- Low-income Community – Disregard of health is prominent in such communities, so a centralized application focusing on both health and nutrition can encourage them to take action in making healthier habits.

Scope

Beta versions and older versions of chrome will not be supported as
1. Desktop browser support:
    - Chrome 94.0.4606.01 - current up until 7/1/2022
2. Data collected by our site:
    - Files : PDF & JPG
    - Text
    - User data for profile creation : Name, Birthdate, E-mail
    - Caloric intake data
    - Weight and height information
    - User location
        - Zip Code
3. Application Type: Web Application
4. Countries Supported: United States of America
5. Languages Supported: English (US) and Español (México)
6. Measurement System: Imperial System and Metric System
    - Imperial System for tracking records
        - Example: (5 foot 2 inches, 160lb)
    - Metric System for Medications
        - Example: (5mg Adderall)

Competition

It is common for people to use multiple applications to target the same concern as many of these apps focus on one task. For instance, one might allow its users to record their medications while the other might be a reminder tool or a calorie calculator. Our goal is to have an all-in-one web application that targets both medical and nutritional concerns by providing diverse features to the user under the same profile. BitOHealth's main competitors are Capzule, Medisafe, My Health Record, and MyFitnessPal.

Features

Medication/Health Recorder:

Users will be able to record their health and documents. They will be able to keep track of the date, categorize the record, and provide information via file upload or writing. This will improve the user's organization skills and raise awareness towards their health. To help with malicious activity, we will limit users who are inputting too many entries within a given time frame, with a total of 1,000 total entries possible within a given account. When users record their health they are required to:

1- Select a category to create a record under. (e.g. medications, symptoms, allergies, etc.)

2- The date and time the record was created will be automatically saved.

2- Create a name for the record (1-100 characters)

4- After a record is created, the user will be able to write whatever they want.

5- The user will be able to upload files onto the record.

6- To prevent malicious use of the Health recorder, A record can only be made/uploaded every thirty seconds per user.

7- file can only be of type jpg or pdf and max size of 16MB.

8- Each user will be given up to 3GB of storage

9- HIPAA guidelines will be followed to ensure files are secure

Reminders:

This feature has the potential to boost productivity and improve user's achievement of goals as forgetting is not an option. It is a replacement for checking the calendar or downloading an app solely to remind. Examples would be to take medications, go to the gym, book doctor appointments, etc.

1- User is required to create a reminder consisting of:
- Reminder's name (1-100 characters).
- Reminder's description (0-1000 characters)
- Date and time (must be valid, only future date/time allowed).
    - Time will be saved according to the time zone the user is in.
    - If the time zone changes, the reminder's time will change to match the previous time zone.
        - Users will need to export the calendar again if they want to have it offline

- Users will have the option to have the times the same regardless of the time zone
  - All of the previous features can be edited whenever the user chooses.
2- Once a reminder is created, it is added to the reminder list.
  - 100 different reminders allowed at the same time-recurring reminders such as taking pills daily will only count as one reminder
  - Past reminders will need to be exported before 30 days
  - Past reminders will be deleted automatically in 30 days to reduce clutter
3- Users can select the reminder to view the information.
4- The user can delete the reminder at any time.
5- The user will be notified at the proper timing via email or calendar.
  - CSV file for calendar export
  - 1 email per minute to prevent spam

Health Locator:
This feature will allow users to find a health-related location near their area such as hospital, park, gyms, therapists, pharmacies, clinics, specialists w/o doctor approval (eg dentists, eye doctor, etc), and more.
Users will be given the option to:
1- Search for a specific location to view their opening hours, phone number, and the distance away.
2- User will be required to select a category to choose from.
3- User is required to input a zip code (5 characters). If a user doesn't have a zipcode they will be asked to input the nearest one.
  - This will be saved but can be changed whenever they would like
4- User is required to input a radius (1-50 miles)
5- The user will now be able to view a list of locations within the desired range.
6- Users can view additional information regarding the location by selecting it such as hours, website, phone number, and any other information that can be provided.
10- Data transferred will be secure, following HIPAA guidelines
Note:
- A maximum of 50 results will be displayed ordered by closest to furthest proximity from the user.
 - No search results can be returned if the user inputs a zip code outside the United States and will be asked to input a proper one.

Medication lookup:

Medication is expensive and not affordable for most people, this feature will help users acquire the best prices without the hassle of checking multiple stores on their own. The medication lookup feature will search all trusted sources for the best medication with an option for both in-person or online purchases. This feature will be utilized whenever the user decides to search for a drug and will also be used in the background around the same time the user will need to fill their medication, this way if one store is cheaper it will let the user know.

1- The user will search for a medication by either selecting one from a list of medications or by searching for the medication using a search bar.
- A recommended search will show underneath, like how google has commonly searched queries under the search bar

2- The user will select the refill date. (must be valid, only future date/time allowed)
- This can be changed in case people miss refill dates, or just go at a later date

3- Input a zip code (5 characters). If a user doesn't have a zip code they will be asked to input the nearest one.

4- Input a radius (1-50 miles)

5- Users will be able to view a list of medications within the desired range.
- 5 searches per minute will be enforced to stop spam

6- The prices will be given from what the price was at the time the user searched for the medication

7- A maximum of 50 results will be displayed ordered from cheapest to most expensive.

8- No search results will be displayed if the user inputs an invalid or unavailable medication.

9- Basic information will be shown about what the user looked up such as side effects, whether or not it requires a prescription, and more.

10- Users can save their search query / medication to get quicker results in the future
- 10 saved medications maximum
- These can be edited whenever they would like

11- Data transferred will be secure, following HIPAA guidelines

Weight Management and calorie counter:

Users will be able to manage their weight on the web application. Users will take a small questionnaire asking about their height, weight, and workout schedule to help how many calories they need to lose, gain, or maintain their weight. Afterward, users will be able to record their food intake for the day to keep up with their diet routine. They will be able to keep track of the time, type of food, and the number of calories in each item, therefore increasing user's awareness towards their diet and how they can break

unhealthy habits. In addition, the user will be able to view calorie information for the day. Rather than guessing, this feature will make it clear to users what their remaining intake will be and motivate users to stay within calories. Users will keep track of their weight progress and be able to view progress pictures over a period of 90 days.

When users record their diet and calorie intake they are required to:

Weight management:

1- Calculating weight will use user's input information such as height, weight, exercise schedule to help the user make an exercise/eating plan for themselves

2- The user will input an ideal weight range and a time frame to reach that range, and the app will give users recommendations on how to achieve that without harming themselves (whether it's so through undereating or forcing themselves to eat too much)

3- User will be able to view daily weight for up to 90 days

4- Users will be allowed to enter 2 pictures per day, with a 16MB limit, to track their progress.

5- Users will also be able to change their goals if they change their minds on a previous goal.

6- Users will be notified if they are off target from their plan
- This will be triggered by going over/under your caloric limit in the calorie counting section
- They will be notified on the site

Calorie Counting:

1- Input a custom entry that includes:

-Choose an item from the list of food or enter a custom food (1-100 characters)

- User will be given an option to enter up to 5 custom options: such as protein, carbs, sugars, or anything a user may need to track

-After an item has been selected, the user will be required to select the portion size in grams.

-A caloric calculation (kcla >0) will be made based on the type of food chosen and portion size

-If a user knows explicitly the amount of calories in the food consumed, they can override our calculation

-Input the time each food was consumed

2- A Daily record of what the user ate that will be created when the user adds at least one entry into a day

Note: Users will also be given the option of searching the list instead of scrolling.

3- Food is added and saved to record along with the calories.

4- Users will be able to edit their records

5- Users will have the option to delete an item off the record.

6- Users will have the option to delete the record.

7- Information from the user's diet record will be retrieved to calculate the total calories eaten per day. (calories eaten >=0)

Note: Calculating remaining calories starts here

8- Total calories eaten will determine whether the user is under or over recommended calorie limit:
- if under: total calories remaining will be calculated. (remaining>0)
- If over: total calories over will be calculated. (over > calorie limit)

    *The calorie limit will be calculated using the user's saved information.

9- Calculations will be updated each time a user adds an item to their record under the same date.

10- Users will be able to view results of calories eaten, the average across a week, calories remaining, and calories over.

11- The information will be deleted every 90 days.

12- User will be allowed to input 20 different entries a day.

Note: Caloric data and dates will be exported to our Track Records feature in xlsx format

Track Records:

Users can track progress or refer back to previous health or nutritional records. Tracking habits over a specific period gives users a measurement of how they are doing and what changes they should be making.

1- Users will be able to search for medical/nutritional records that were previously created.

2- Users will have the option to search either by a valid record name or date.

3- All records can be retrieved by the user chronologically or alphabetically.

4-1000 records and 3GB storage max per person

    Record will include:

    -PDFs/JPGs

    -user inputted text

    -.xlsx

5- File Explorer for users

    -User organized records for easy access. Users will be able to organize by alphabetical order, date (newest and oldest), or by manually ordering their files.

-User will be able to favorite files/folders for faster access

6- Every file will be come with an option to export or delete. Users will only be allowed to export a file every 10 seconds to prevent any malicious usage.

7- Users can export multiple files at once by highlighting multiple and selecting export

Diet Recommendations:

This feature will provide users with a questionnaire regarding their health and desired future goals. Depending on their answers, a suitable general diet plan will be recommended for them to follow.

1- User information that was saved will be retrieved.

2- Users will be required to select answers for dietary questions.

3- Recipes and meals will be displayed after they answer these questions

4- Users will be able to view options for meals.
- 30 meals max will be displayed at a time, but can query more if they would like to
- 5 queries per minute
- Users can filter results in real time based on certain criteria
    - Example: breakfast, dinner, easy to cook, chicken based

5- Users will be able to select a meal.

6- Users will be able to save a meal onto their diet list. (a maximum of 5 every 24 hours)

7- Users will be able to delete a meal off their list

8- 10 questions will be used to determine the diet
- Example: "Do you plan to lose weight, gain weight, or does it not matter?", "Are you allergic to anything?" etc
- Users can take the questionnaire multiple times if they decide to
    - This is for users who change their goals or made an error
- People can take it 5 times a week

9- Meals will be taken from an online database

10- Health goals can be to lose weight, gain weight, or maintain weight

Hot Topics:

Throughout the last couple of decades, health has become a major part of everyday life. Recently, the COVID-19 outbreak has led to significant challenges to human life and healthcare workers. Due to this rise in health awareness, we will have a section

focusing on trending health topics to keep our users informed on local and global concerns.

1- Users can view local health risks based on zip code like air pollution, tornado warnings, and low/high-temperature warnings

2- Users will be informed on worldwide health risks like rising COVID-19 cases or other big events affecting substantial areas

- Example: Hurricanes, Tsunamis, Volcanoes, etc.

3- Users can opt into getting notifications on these topics via email

4- Users can change zip codes once every 10 seconds to view hot topics in other areas

References:

[1] Taber, J. M., Leyva, B., & Persoskie, A. (2014, November 12). *Why do People Avoid Medical Care? A Qualitative Study Using National Data*. NCBI. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4351276/.

[2] Mobile Health Apps Interactive Tool. (April 2016). https://www.ftc.gov/tips-advice/business-center/guidance/mobile-health-apps-interactive-tool

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