Healthy Food Suggetion With Calorie InTake

Team: Easy Life

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Healthy Food Suggetion With Calorie Intake

Introducing our capstone project on healthy food suggestion with calorie intake tracking developed using C programming.

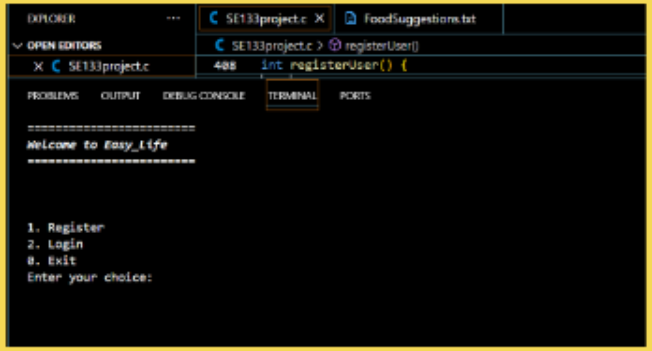
1.Introducton.
2.Registration and Login
3.Function and Structure
4.File
5.Our Service
6.Main Function
7.Our Limitation
8.Conclusion

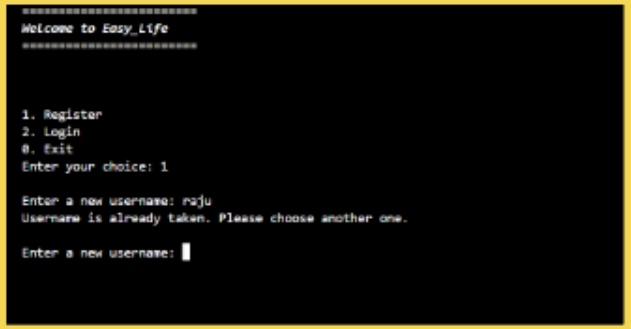
Registration And Login:

Login

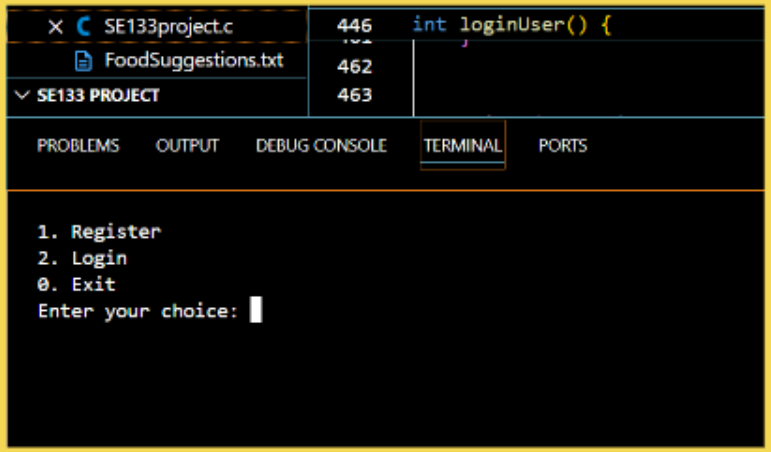
Registration

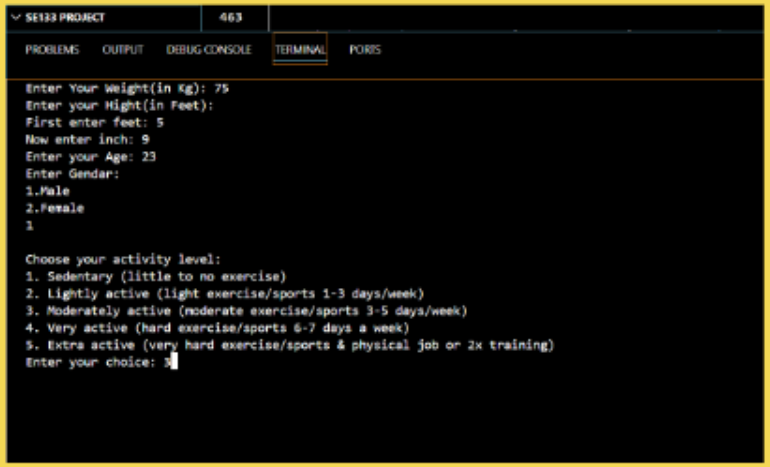
```c
int registerUser() {
    char username[MAX_USERNAME_LEN];
    char password[MAX_PASSWORD_LEN];
    int isTaken;
    do {
        printf("\nEnter a new username: ");
        scanf("%s", username);

        isTaken = isUsernameTaken(username);
        if (isTaken) {
            printf("Username is already taken. Please choose another one.\n");
        }
    } while (isTaken);

    while (1) {
        printf("Enter a password (at least 6 characters, including uppercase, lowercase, digit, and special character): ");
        scanf("%s", password);

        if (strlen(password) >= 6 && isStrongPassword(password)) {
            break;
        } else {
            printf("Password too weak. Please try again.\n\n");
        }
    }

    FILE *fp = fopen("users.txt", "a");
    if (fp == NULL) {
        printf("Error opening file for writing.\n");
        return 1;
    }

    fprintf(fp, "%s %s\n", username, password);
    fclose(fp);

    printf("Registration successful!\n");
    return 0;
}
```





```c
int loginUser() {
    char username[MAX_USERNAME_LEN];
    char password[MAX_PASSWORD_LEN];
    char file_username[MAX_USERNAME_LEN];
    char file_password[MAX_PASSWORD_LEN];

    printf("\nEnter your username: ");
    scanf("%s", username);

    printf("Enter your password: ");
    scanf("%s", password);
    FILE *fp = fopen("users.txt", "r");
    if (fp == NULL) {
        printf("Error opening file for reading.\n");
        return 1;
    }


    while (fscanf(fp, "%s %s", file_username, file_password) != EOF) {

        if (strcmp(username, file_username) == 0 && strcmp(password, file_password) ==
0) {
            fclose(fp);
            printf("Login successful!\n");
            isLoggedIn=true;
            return isLoggedIn;
        }
    }

    fclose(fp);
    printf("Invalid username or password. Please try again.\n");
    return 1;
```





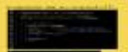
Project Details

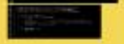
Functionality Overview

Function

All functions of the program

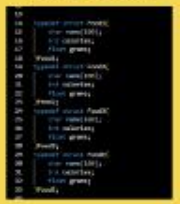
```
int registerUser();
int loginUser();
int isUsernameTaken(const char *username);
int isStrongPassword(char *password);
void logoutUser();

int Calorie(float weight, float height, int age, int gender, float activityFactor);
float BMI(float weight, float height, FILE *file);

void suggestFood1(Food1 *foods1, int size, float calorieNeeds, FILE *file);
void suggestFood2(Food2 *foods2, int size, float calorieNeeds, FILE *file);
void suggestFood3(Food3 *foods3, int size, float calorieNeeds, FILE *file);
void suggestFoodF(FoodF *foodsF, int size, float calorieNeeds, FILE *file);
```





Structure

Struct Declaration



Data entry to the variable food1 of type struct Food1

Struct Declaration

```
13
14  typedef struct Food1{
15      char name[100];
16      int calories;
17      float grams;
18  }Food1;
19  typedef struct Food2{
20      char name[100];
21      int calories;
22      float grams;
23  }Food2;
24  typedef struct Food3{
25      char name[100];
26      int calories;
27      float grams;
28  }Food3;
29  typedef struct FoodE{
30      char name[100];
31      int calories;
32      float grams;
33  }FoodE;
```

Data entry to the variable food1 of type struct Food1

```
59      Food1 foods1[] = {
60          {"Plain Water",00, 1000.0},
61          {"4 Piece Red Wheat Rooti/2 Piece Nun Rooti",240, 200.0},
62          {"Apple slices with peanut butter", 150, 200.0},
63          {"2 Piece Banana", 210, 240.0},
64          {"Cucumber salad", 40, 150.0},
65          {"Boiled Egg", 54, 48.0},
66          {"Cabbage / Tamatoes/ Gourd", 43, 100.0},
67          {"Khichuri (Rice and Lentil Porridge)", 300, 200.0},
68          {"Paratha with Egg Curry", 350, 150.0},
69          {"Khichuri (Rice and Lentil Porridge)", 300, 200.0},
70          {"Panta Bhat(Fermented Rice) with Fried Hilsa Fish", 400, 250.0},
71          {"Chapati with Mixed Vegetable Curry", 250, 180.0},
72          {"Chirer Polao (Flattened Rice Pilaf)", 270, 200.0},
73          {"Aloo Bhaji(Potato Fry) with Roti", 300, 190.0},
74          {"Shemai (Vermicelli Pudding)", 280, 150.0},
75          {"Dal Puri (Lentil-Stuffed Bread)", 320, 180.0},
76          {"Singara (Samosa) with Chutney", 220, 120.0},
77          {"Beguni (Eggplant Fritters) with Rice", 350, 200.0},
78          {"Rice Flour Pancakes with Jaggery", 300, 160.0},
79          {"Luchi with Alur Dom (Puffy Bread with Potato Curry)", 450, 200.0},
80          {"Fried Rice with Chicken", 400, 250.0},
81          {"Green tea", 1, 100.0},
82          {"Doi Chira (Flattened Rice with Yogurt)", 250, 150.0},
83          {"Puffed Rice with Jaggery and Coconut", 200, 100.0},
```

All functions of the program

int registerUser();
int loginUser();
int isUsernameTaken(const char *username);
int isStrongPassword(char *password);
void logoutUser();

int Calorie(float weight, float height, int age, int gender, float activityFactor);
float BMI(float weight, float height, FILE *file);

void suggestFood1(Food1 *foods1, int size, float calorieNeeds, FILE *file);
void suggestFood2(Food2 *foods2, int size, float calorieNeeds, FILE *file);
void suggestFood3(Food3 *foods3, int size, float calorieNeeds, FILE *file);
void suggestFoodE(FoodE *foodsE, int size, float calorieNeeds, FILE *file);

int Calorie(float weight, float height, int age, int gender, float activityFactor);

SE133project.c > Calorie(float, float, int, int, float)

```c
}

int Calorie(float weight,float height,int age,int gender,float activityFactor){

    float BMR;
    float heightMeter = height * 0.3048;

    printf("=============\n");
    printf("Easy_Life\n");
    printf("=============\n");
    printf("\n\n");

    if (gender== 1) {
        // For males
        BMR =88.362 + (13.397 * weight) + (4.799 * heightMeter *100) - (5.677 * age);
    }
    else if (gender == 2) {
        // For females
        BMR = 447.593 + (9.247 * weight) + (3.098 * heightMeter *100) - (4.330 * age);
    }
    else {
        printf("Invalid gender.\n\n Please enter '1' for male \n '2' for female.\n");
        BMR = -1; // Return -1 to indicate error
    }

    calorieNeeds =BMR*activityFactor;
    //printf("Calories is %f\n\n",calorieNeeds);

    return calorieNeeds;
}
```

float BMI(float weight, float height, FILE *file);

SE133project.c > suggestFood1(Food1 *, int, float, FILE *)

```
512  }
513
514  float BMI(float weight, float height, FILE *file){
515      float bmi;
516      float heightMeter = height * 0.3048;
517
518      bmi=weight/(heightMeter*heightMeter);
519
520      printf("Your BMI is: %.2f\n\n",bmi);
521      fprintf(file, "Your BMI is: %.2f\n\n", bmi);
522
523      if (bmi < 16) {
524          printf("  - Very underweight: Consult a doctor for a personalized plan.\n");
525          fprintf(file, "  - Very underweight: Consult a doctor for a personalized plan.\n");
526      }
527      else if (bmi >= 16 && bmi < 18.5) {
528          printf("  - Underweight: Focus on calorie-dense foods with healthy fats.\n");
529          fprintf(file, "  - Underweight: Focus on calorie-dense foods with healthy fats.\n");
530      }
531      else if (bmi >= 18.5 && bmi <= 24.9) {
532          printf("  - Normal weight: Maintain a balanced diet with all food groups.\n");
533          fprintf(file, "  - Normal weight: Maintain a balanced diet with all food groups.\n");
534      }
535      else if (bmi >= 25 && bmi <= 29.9) {
536          printf("  - Overweight: Focus on portion control and nutrient-rich foods.\n");
537          fprintf(file, "  - Overweight: Focus on portion control and nutrient-rich foods.\n");
538      }
539      else {
540          printf("  - Obese: Aim for gradual weight loss through a combination of calorie reduction and increased physical acti
541          fprintf(file, "  - Obese: Aim for gradual weight loss through a combination of calorie reduction and increased physica
542      }
543      return 0;
544  }
```

void suggestFood1(Food1 *foods1, int size, float calorieNeeds, FILE *file);

```
545
546  void suggestFood1(Food1 *foods1, int size, float calorieNeeds, FILE *file) {
547      printf("Your required calorie for morning is: %.2f\n\n",calorieNeeds);
548      fprintf(file, "Your required calorie for morning is: %.2f\n\n",calorieNeeds);
549
550      for (int i = 0; i < size; i++) {
551          if (foods1[i].calories <= calorieNeeds) {
552              printf("%s:... ... ... %.2f grams/ml\n", foods1[i].name, foods1[i].grams);
553              fprintf(file, "%s:... ... ... %.2f grams/ml\n", foods1[i].name, foods1[i].grams);
554              calorieNeeds -= foods1[i].calories;
555          }
556          if (calorieNeeds <= 0)
557              break;
558      }
559  }
560
```

```
560
561  void suggestFood2(Food2 *foods2, int size, float calorieNeeds, FILE *file) {
562      printf("Your required calorie for noon is: %.2f\n\n",calorieNeeds);
563      fprintf(file, "Your required calorie for noon is: %.2f\n\n",calorieNeeds);
564
565      for (int i = 0; i < size; i++) {
566          if (foods2[i].calories <= calorieNeeds) {
567              printf("%s: ... ... ...%.2f grams/ml\n", foods2[i].name, foods2[i].grams);
568              fprintf(file,"%s:... ... ... %.2f grams/ml\n", foods2[i].name, foods2[i].grams);
569              calorieNeeds -= foods2[i].calories;
570          }
571          if (calorieNeeds <= 0)
572              break;
573      }
574  }
575
```

File and Our Services

File

There are total two files in the program

1. users.txt
2. FoodSuggestions.txt

Our Services

Our Services:

1. Provides BMI
2. Provides activity suggestions based on BMI
3. Provides a healthy diet chart
4. Provides an online prascription

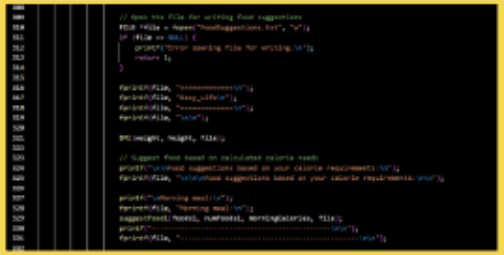
There are total two files in the program

1. users.txt
2. FoodSuggestions.txt

users.txt

FoodSuggestions.txt

int main();



users.txt

int isUsernameTaken(const char *username);

```
376 int isUsernameTaken(const char *username) {
377     char file_username[MAX_USERNAME_LEN];
378     char file_password[MAX_PASSWORD_LEN];
379 
380     FILE *fp = fopen("users.txt", "r");
381     if (fp == NULL) {
382         printf("Error opening file for reading.\n");
383         return 0;
384     }
385 
386     while (fscanf(fp, "%s %s", file_username, file_password) != EOF) {
387         if (strcmp(username, file_username) == 0) {
388             fclose(fp);
389             return 1;  // Username is taken
390         }
391     }
392 
393     fclose(fp);
394     return 0;  // Username is not taken
395 }
```

int registerUser();

```
432 
433     FILE *fp = fopen("users.txt", "a");
434     if (fp == NULL) {
435         printf("Error opening file for writing.\n");
436         return 1;
437     }
438 
439     fprintf(fp, "%s %s\n", username, password);
440     fclose(fp);
441 
442     printf("Registration successful!\n");
443     return 0;
444 }
```

int loginUser();

```
457     FILE *fp = fopen("users.txt", "r");
458     if (fp == NULL) {
459         printf("Error opening file for reading.\n");
460         return 1;
461     }
462 
463 
464     while (fscanf(fp, "%s %s", file_username, file_password) != EOF) {
465 
466         if (strcmp(username, file_username) == 0 && strcmp(password, file_password) == 0) {
467             fclose(fp);
468             printf("Login successful!\n");
469             isLoggedIn=true;
470             return isLoggedIn;
471         }
472     }
473 
474     fclose(fp);
475     printf("Invalid username or password. Please try again.\n");
476     return 1;
477 }
```

FoodSuggestions.txt

int main();

```
308
309         // Open the file for writing food suggestions
310         FILE *file = fopen("FoodSuggestions.txt", "w");
311         if (file == NULL) {
312             printf("Error opening file for writing.\n");
313             return 1;
314         }
315
316         fprintf(file, "=============\n");
317         fprintf(file, "Easy_Life\n");
318         fprintf(file, "=============\n");
319         fprintf(file, "\n\n");
320
321         BMI(weight, height, file);
322
323         // Suggest food based on calculated calorie needs
324         printf("\n\nFood suggestions based on your calorie requirements:\n");
325         fprintf(file, "\n\n\nFood suggestions based on your calorie requirements:\n\n");
326
327         printf("\nMorning meal:\n");
328         fprintf(file, "Morning meal:\n");
329         suggestFood1(foods1, numFoods1, morningCalories, file);
330         printf("-----------------------------------------\n\n");
331         fprintf(file, "-----------------------------------------\n\n");
332
```

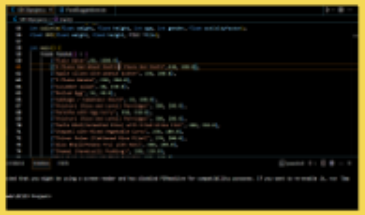
Our Services:

1. Provides BMI
2. Provides activity suggestions based on BMI
3. Provides a healthy diet chart
4. Provides an online prascription

Conclusion

- Summarizing the successful development and implementation of our healthy food suggestion project.

Main Function



1 Main_function

2 HealthyFoodSuggetionWithCalorieIntake

Limitation

Referance

Refer
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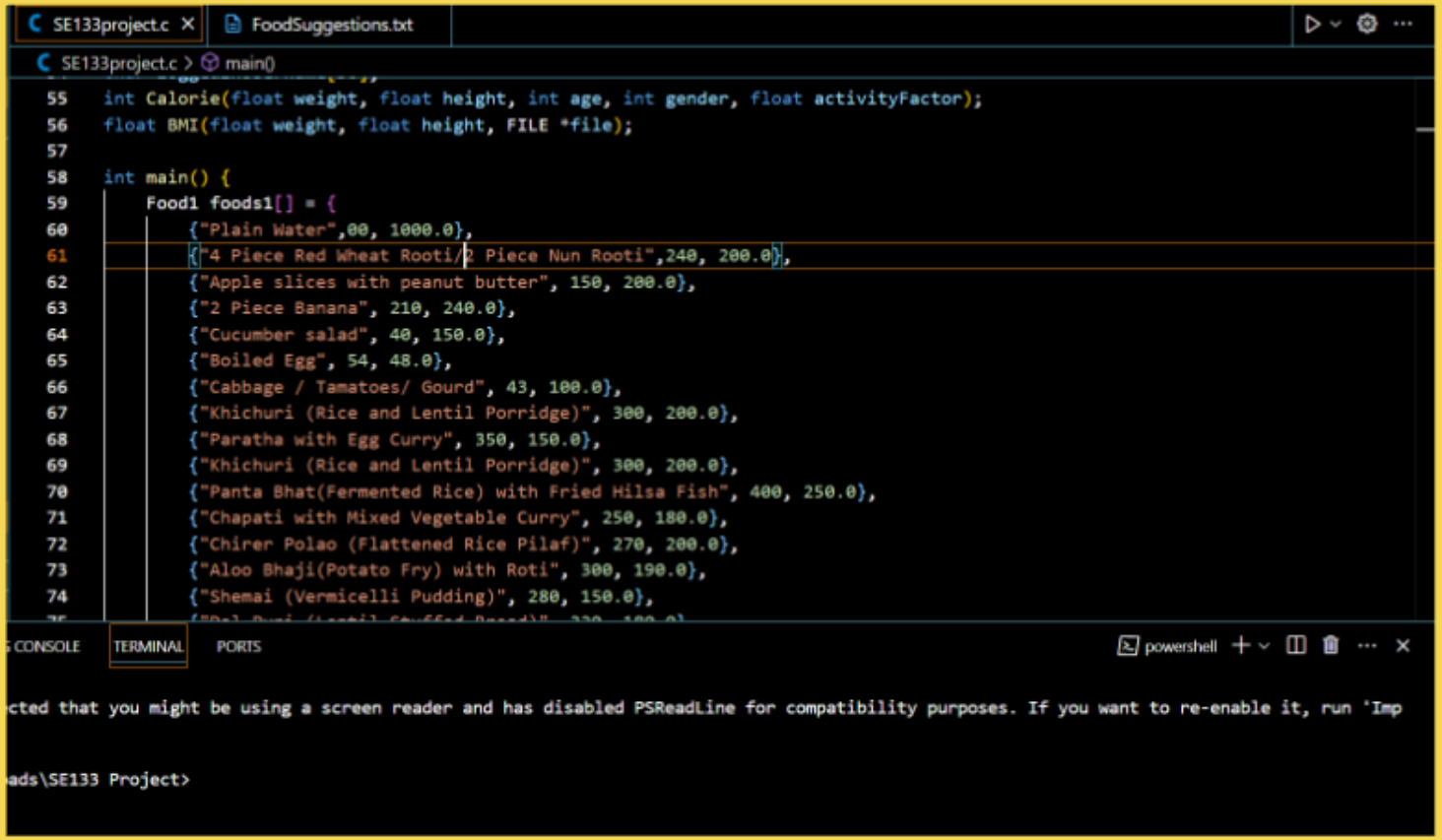

1.Main_function

2.HealthyFoodSuggetionWithCalorieIntake

Reference

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Thank You

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