

CS141 Calorie Counter

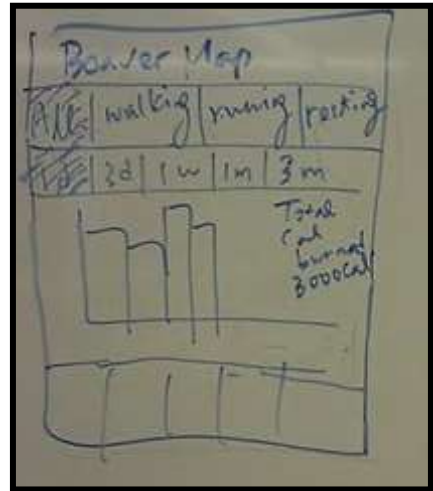
Layout

Required Displays

Graphs / History

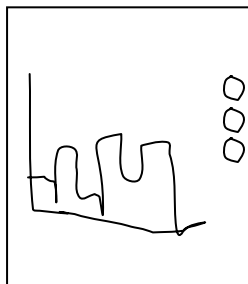
“Activity tracker” graph that shows basic activities and their frequency over different time periods. Main screen for the calorie counter tab.

Also shows total number of calories burned from each activity.



Settings

Can be implemented as distinct buttons on the side or as a separate screen:



Change Gender
Change Units
Change Weight

Should have the following:

- Units
- Gender
- Weight



Integration with Android Motion

Using METS formula (detailed later) the intensity of activities influences the number of calories burnt. Activities can be found out by android motion but might have to ask user about the intensity.

Sample screen:



Were you **RUNNING**?

How intense was it?

Moderately intense

Information Required

Online API

FatSecret

URL: <http://platform.fatsecret.com/>

FatSecret is an online database of nutrition and exercise information that can be accessed through the FatSecret Platform API for free (with some terms and conditions, e.g. reasonable number of queries, credit FatSecret for data). Seems pretty useful.

If we were to implement the formulas by ourselves, not definite if the formulas will be more/less accurate (not sure what formulas FatSecret uses and it's against T&C to reverse engineer it)

Implementable Formulas

METS Calculation

URL: http://www.my-calorie-counter.com/mets_calculation.asp
<http://www.topendsports.com/weight-loss/energy-met.htm>

METS Calculation is based on the user's weight and a table of "standard" values for activities. Isn't too accurate considering that different ages/etc. of users will influence the calculation.

BMI

Metric Units: $BMI = \text{Weight (kg)} / (\text{Height (m)} \times \text{Height (m)})$

English Units: $BMI = \text{Weight (lb)} / (\text{Height (in)} \times \text{Height (in)}) \times 703$

Other Formulas

BMR

English BMR Formula
Women: $BMR = 655 + (4.35 \times \text{weight in pounds}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age in years})$ Men: $BMR = 66 + (6.23 \times \text{weight in pounds}) + (12.7 \times \text{height in inches}) - (6.8 \times \text{age in year})$
Metric BMR Formula
Women: $BMR = 655 + (9.6 \times \text{weight in kilos}) + (1.8 \times \text{height in cm}) - (4.7 \times \text{age in years})$ Men: $BMR = 66 + (13.7 \times \text{weight in kilos}) + (5 \times \text{height in cm}) - (6.8 \times \text{age in years})$

Harris Benedict Formula
To determine your total daily calorie needs, multiply your BMR by the appropriate activity factor, as follows: <ol style="list-style-type: none">1. If you are sedentary (little or no exercise) : Calorie-Calculation = $BMR \times 1.2$2. If you are lightly active (light exercise/sports 1-3 days/week) : Calorie-Calculation = $BMR \times 1.375$3. If you are moderatetely active (moderate exercise/sports 3-5 days/week) : Calorie-Calculation = $BMR \times 1.55$4. If you are very active (hard exercise/sports 6-7 days a week) : Calorie-Calculation = $BMR \times 1.725$5. If you are extra active (very hard exercise/sports & physical job or 2x training) : Calorie-Calculation = $BMR \times 1.9$

Total Calorie Needs Example

If you are sedentary, multiply your BMR (1745) by 1.2 = 2094. This is the total number of calories you need in order to **maintain** your current weight.