

THE BLUES

Project Report

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Abstract. sadness and grief are emotions nobody wishes to experience. if they prolong, they can lead to other mental disorders. 'The blues' is an application for uplifting the spirit of people experiencing these emotions and help them recover for their mental well being. Here, we intend to achieve maximum happiness and satisfaction for a person using 0/1 knapsack which is a dynamic programming concept.

Keywords: the blues · uplifting the spirit · knapsack.

1 Introduction

A lot of us today suffer internally with anxiety, feeling helpless, feeling of sadness for no particular reason. Many people do not talk about their suffering with others as they feel they might be misunderstood. The fear of being labelled or judged stops them by discussing with others, hence, the thought of developing 'the blues' came up where a person can try to understand his feelings and push him out of this mental state for achieving happy well being by simple use of an application sitting comfortably in his home. Here, We ask our users some questions relating to their daily life and involving activities. To answer these questions users are given some options. The options hold the relevance it has for the user. Each option has some cost associated with it which defines its importance. Then, we find out the count of the happiness the person holds by taking into account the option chosen with its factor. It is proved that a mentally healthy person is atleast 40 percent happy. If our user is not able to fulfill this criteria, then we provide him/her with some advices. concept of 0/1 knapsack, a dynamic programming is used here. These advices have certain weight attached to them. This ensures effectiveness of the advice and tells the user the time period till which that advice has to be followed. knapsack is best suited for our problem as it serves the purpose of providing most effective solution to the user by using maximum weightage as well as we maximise the time period so that we are able to support the person as long as possible.

Problem Statement. *we ask the user 10 questions, then we provide him with 6 options to answer each question. the cost of each factor has is also associated with it. this will help us to calculate happiness of a person.*

$$happiness = happiness + (factor \times choice) \quad (1)$$

using the concept of 0/1 knapsack (dynamic programming) which is : " given a set of advices , each with a effective weight and a time period , determine the number of each advice to include in a collection so that effective weight is less than or equal to a given counter percentage of happiness and the total time period is as large as possible.

here, we try to achieve maximum satisfaction and happiness for a person as follows: maximise $\sum t_i x_i$

where t_i represent the time period associated with given advice number 'i' and effectiveness is maximised and $\sum_{i=1} w_i x_i \leq (1 - \text{percentage of current happiness})$

where $x_i \in \{0, 1\}$

x_i represent 0 if not chosen

x_i represent 1 if chosen

2 Proposed Approach

We calculate the percentage of happiness, as given in 1 and suggest the measures to increase the amount of happiness as given in 2 explain it in detail using example.

Algorithm 1 Happiness Algorithm

```

procedure CALPERCENTAGE(questions,options,value)
  count = 0
  for each question do
    count = count + value(optioni)
  end for
end procedure

```

Algorithm 2 Steps Suggestion Algorithm

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procedure STEPSUGGESTION( $W, wt, v, n, Steps$ )
  for  $i = 0$  to  $n$  do
    for  $w = 0$  to  $W$  do
      if  $i = 0 \vee w = 0$  then
         $K[i][w] \leftarrow 0$ 
      else if  $wt[i - 1] \geq w$  then
         $K[i][w] \leftarrow \max(val[i - 1] + K[i - 1][w - wt[i - 1]], K[i - 1][w])$ 
      else
         $K[i][w] = K[i - 1][w]$ 
      end if
    end for
  end for
   $res = K[n][w]$ 
   $w = W$ 
   $i = n$ 
  while  $i > 0 \wedge res > 0$  do
    if  $res = K[i - 1][w]$  then
       $i - =$ 
    else
      push back  $i$  in the vector  $v$ 
       $sum = \max(sum, val[i - 1])$ 
       $res = res - val[i - 1]$ 
       $w = w - wt[i - 1]$ 
       $i - =$ 
    end if
  end while
  for  $i = 0$  to  $v.size()$  do
     $print\ Steps[v[i] - 1]$ 
  end for
end procedure

```

3 Results

the results are:

```

Welcome to Fighting mood
I feel luck plays an important role in happiness
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
6

I rarely wake up feeling rested
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
6

I feel that life is very rewarding
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
1

I am always committed and involved
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
1

There is a gap between what I would like to do and what I have done
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
5

I feel that I am not especially in control of my life
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
6

I find it easy to make decisions
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
1

I have a particular sense of meaning and purpose in my life
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
1

I am well satisfied about everything in my life
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
2

I think that my happiness is directly linked to the amount of material possessions and wealth that I have
1.strongly disagree 2. moderately disagree 3.slightly disagree 4.slightly agree 5.moderately agree 6.strongly agree
4

Your happiness score is 47 %

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Fig. 1. plan given to the user.

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                                bright sun is waiting for you!
                                Here we are providing you with 60 days package
                                follow this up and you will meet brighter you!
*) . Exercise daily
aim for at least 30 minutes of exercise per day
A 10-minute walk can improve your mood for two hours
*****
*) . Do things that makes you feel good
Do this once a week for next 2 months.
Discover yourself and your passion and take out time for your favourite thing
*****
*) . Regular sleep Balance needed
7-8 hours required for being healthyboth mentally and physically .
Common medicines might not work if sleep pattern is not changed
*Suggestions to have a good sleep at night *:
A)naps needed during the day : limit it to 20-30 mins only
B) limit alcohol and caffeine
C) avoid spicy food close to bed time .
D) do not talk about stressful things right before sleep.
*****

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Fig. 2. question asked from user.

SCOPE The scope of this project is limitless with world rushing towards hectic schedules and monotonous lifestyle. A more personalized solution to detect happiness quotient by tracking user's social media interaction, profession, age, and numerous other factors. While psychologists are accessible to people in urban areas, there are not many in rural and remote areas. Through 'The blues' we can connect psychologists from around the world directly to people. Also mental health is still considered a stigma in society, spreading awareness is another aspect of the project. Machine learning and data analysis can help us spot such people who need help, we can then concentrate our solution on them so that depression just can't be cured but also prevented.

No Institute Given

some claim [2][3][1].

References

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