Estimating the Severity Level of Alcohol Use in Future

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Abstract: Alcohol addiction is a persistent, often relapsing and mental disorder that makes the brain of people uncontrollable. The global status report on alcohol and health by World Health Organization, WHO (2014) states that 38.3% of the world's population consumed alcohol regularly. The objective of this study is to implement the software which predicts the severity level of alcohol consumed by people in future means how prone the person will be addicted to alcohol. 204 heavy drinkers were taken into consideration for collecting the data through questionnaires. This study divides the results in three parts: Red alert means you will be highly prone to alcohol in future, Yellow alert means you will be at middle level of getting addicted to alcohol, Green alert that means there are very less chances that you will be addicted in future.

Keywords: Addiction, Prediction.

I. Introduction

Alcoholism is not a noble issue, not a lack of commitment or not a matter of choice. Addiction of alcohol changes the brain of people and quitting alcohol is very difficult job. This portrays the negative outcome for individual and society. In [10], a global status report on alcohol and health by World Health Organization, WHO (2014) estimated that about 3.3 millions of deaths occur each year due to high addiction of alcohol. There is a need to resolve the problem of alcohol consumption by deeply knowing the risk factors that indulge the people to take alcohol.

.NET is a framework that provides the better user interface to interact with the people. This paper predicts the severity level of people means how prone the person is to take alcohol in future. There is an implementation of work in .net framework which estimates the chances of drinking alcohol for a single individual in future.

The objective of this paper id to design a software that will predict that whether the person will be addicted to alcohol in future or not and how many chances are there that he will get addicted. This paper is organized as follows: Section 2 represents the method used for designing the software followed by section 3 which confers the result and section 4 discusses the conclusion and future scope.

II. Method for Implementation

Data is collected through questionnaire by visiting the alcohol de addiction centers in Patiala, Punjab. There are four age groups: 0-24, 25-40, 41-60 and >60. Every age group has its different questionnaire and this is based on the risk factors which affects the person to turn into drink. In [1], [4] authors take the factors which include: family factors, physical factors, quantitative factors, environmental factors, medical factors, religious factors. Each and every factor has its different sub factors corresponding to their group. 204 heavy drinkers are taken into consideration for collecting the data. On the basis of collected data each option for a particular question has given the probability. This probability is based on the answers that are given by addicted persons.

A. Selecting the Framework

NET framework is used to design the software. This framework is composed of two components that are: common language runtime (CLR) and .NET framework class libraries. The CLR is the actual base of .NET framework. CLR acts as an execution engine for all the applications build in .NET framework. Every target computer needs the CLR to execute the .NET application that uses this framework. The language that is used to design the software is C# and SQL server 2008 is used to store the database at the back end.

B. Key tasks for designing the tool

1. Prepare the database
2. Make the web pages
3. Prepare the graphical user interface for people
4. Writing the codes behind the pages
5. Handle the control navigation from other pages
6. Apply constraints according to requirement
7. Link the pages to the database

C. Software Interface

The software has the user interface which presents the questionnaire to the people and by submitting their answers they can get their results. Every age group people have the different questionnaire and user interface. There are three levels of severity: Low, middle and high. As per answers the

software generates the results for people through which they come to know about their level of severity. If the level is high it means they will be highly prone to alcohol in future and this corresponds to the red alert. If the level is middle then it means they are at the middle level of severity to get addicted in the future and this corresponds to yellow alert and if the level is low then it means there are very less

chances that you will be prone to alcohol in future and this corresponds to green alert. This software also generates the unique id for every single person so that he should check the results in future by verifying his id. Fig I represent the registration for a particular person and generating its id and Fig II show the interface for age group 0-24.
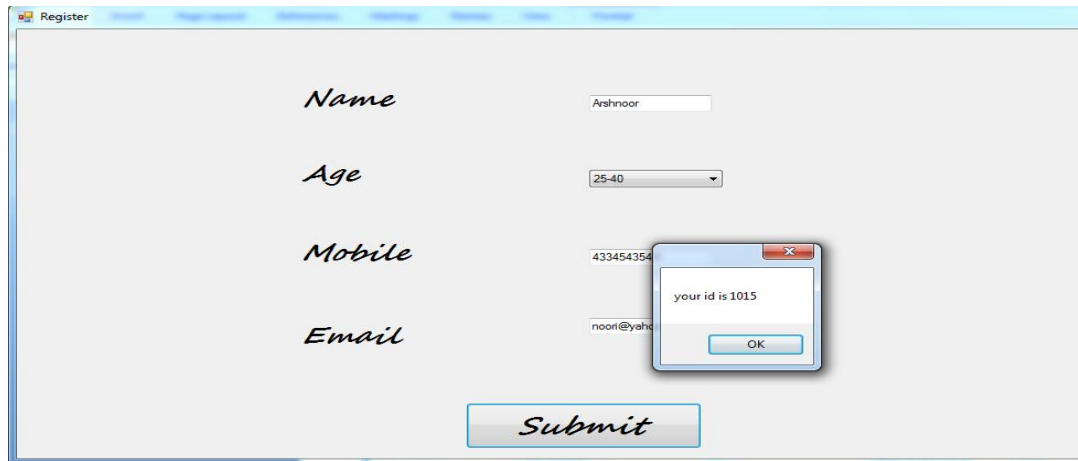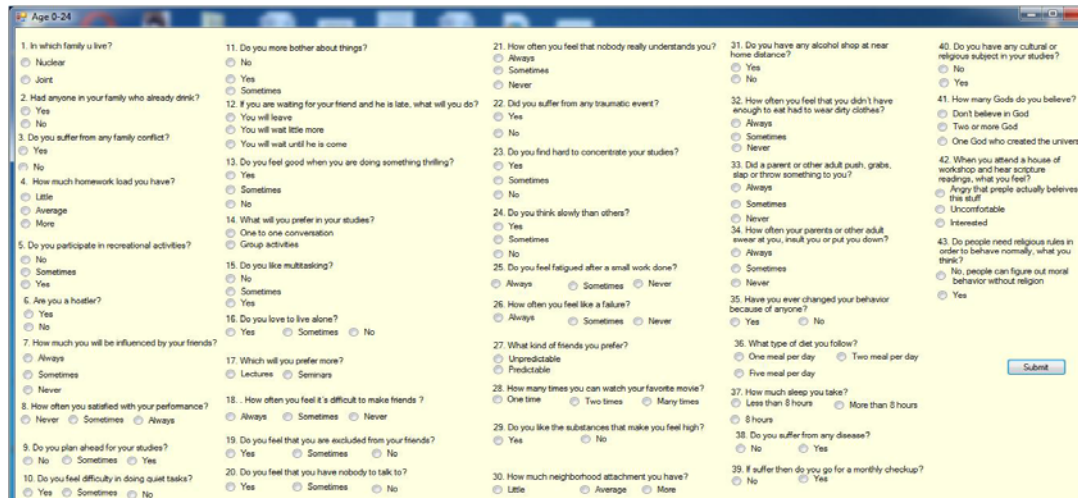

Fig I: Showing the id for a particular person

Fig II: Represent the interface for age group 0-24

III. Results generated by the tool

Results are on the basis of answers given by an individual. All the ticked options get added together and conclude the particular result. The result can lie in the three intervals: the interval where level of severity is low means there are very less chances that you will be addicted to alcohol in future, the interval where level of severity is middle means the chances are more than first level and the third interval where

level of severity is high means there are more chances that you will turn to drink in future. Fig III shows the steps that the person has to perform for estimating their severity level. The result given by the tool to the person when he or she fills the form is shown in Fig IV. Testing is done on some people and the results are shown in Table I (a), I (b), I (c), I (d) and their corresponding information is stored in the dataset as shown in the Table II.
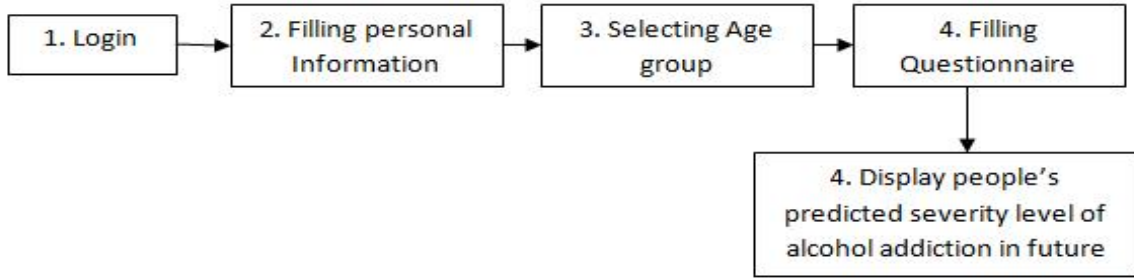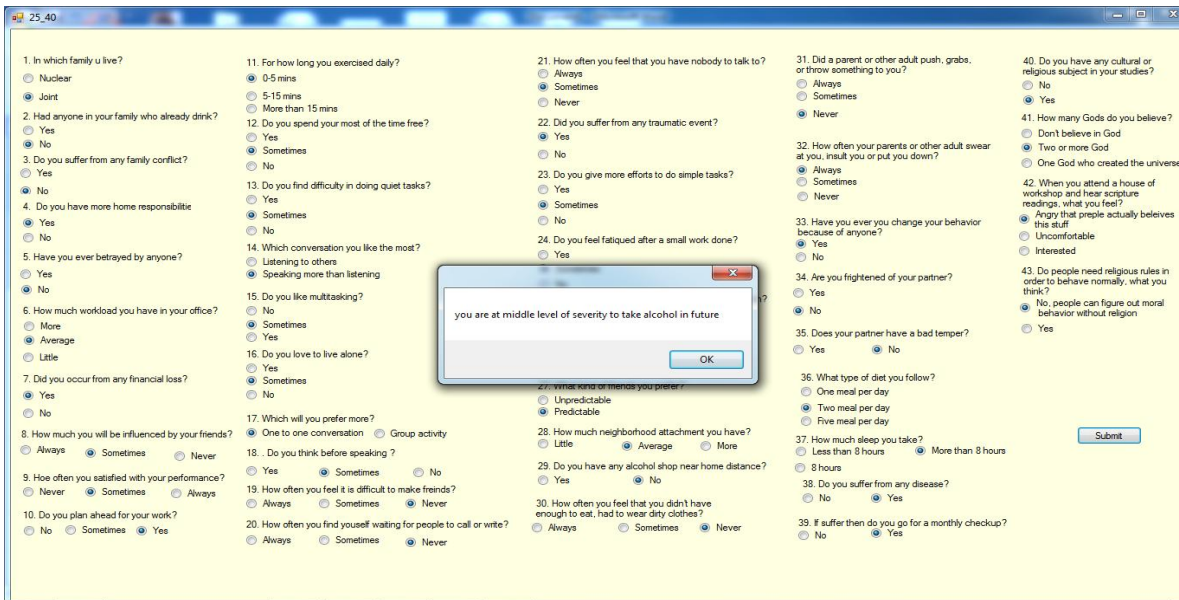
Fig III: Number of steps performed to get result

Fig IV: Result given by tool to a patient after filling the form

Table I (a): Shows the results of software up to Q12

id	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
1001	7	22	1	9	9	13	22	11	10	4	5	18
1002	11	17	13	7	17	6	6	17	14	14	1	6
1003	11	18	13	7	11	8	8	26	14	3	7	16
1004	11	1	19	6	2	3	1	1	4	14	5	1
1005	7	18	1	3	9	13	10	2	10	4	5	13
1006	11	23	13	3	17	8	4	17	17	14	1	6
1007	11	22	17	7	2	1	18	5	14	6	7	1
1008	9	3	19	6	18	15	9	1	4	14	28	7
1009	9	1	11	6	2	2	1	1	18	14	7	42

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Table I (b): Shows the results of software up to Q25

Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
4	12	6	10	7	4	13	16	7	29	7	4	7
2	11	6	44	1	7	5	9	9	21	1	1	21
9	6	17	14	7	5	14	5	11	18	19	16	8
28	23	17	1	17	36	15	37	15	17	1	2	22
2	12	6	19	7	4	11	16	17	29	7	4	7
2	11	17	44	1	7	3	9	9	29	1	1	21
7	18	17	16	7	7	7	3	21	18	19	11	15
28	7	17	1	9	36	14	37	5	17	3	8	22
12	23	3	1	17	36	15	37	5	17	1	2	18

Table I (c): Shows the results of software up to Q38

Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38
6	3	5	17	7	15	1	24	8	3	11	20	14
3	1	3	6	13	16	1	6	7	1	11	3	9
7	15	15	6	11	17	17	7	6	8	27	1	9
17	4	7	3	8	11	13	4	1	7	43	2	15
7	2	5	17	10	15	6	2	8	3	11	20	6
3	4	3	6	13	3	1	6	7	9	36	3	9
7	25	15	13	9	17	4	1	6	2	3	1	9
17	4	2	3	11	11	13	4	1	7	43	37	15
1	46	2	3	11	12	7	4	1	3	1	37	5

Table I (d): Shows the results of software

Q39	Q40	Q41	Q42	Q43	sum	alert
7	15	6	9	15	443	Green Alert
4	23	6	6	22	408	Yellow Alert
6	21	14	11	13	502	Yellow Alert
3	6	8	6	8	465	Yellow Alert
3	15	9	4	15	394	Green Alert
4	17	13	1	22	449	Yellow Alert
4	19	1	3	13	429	Green Alert
3	24	8	6	8	554	Yellow Alert
3	6	37	2	12	494	Yellow Alert

Table II: Shows the information of people with their unique ID

id	name	age
1001	Navdeep	0-24
1002	hardimrat	25-40
1003	tajinder	41-60
1004	gurmitt	above 60
1005	navroop	0-24
1006	suvinder	25-40
1007	davinder	41-60
1008	harnaik	above 60
1009	rajdeep	above 60
NULL	NULL	NULL

The software stores the information of all the people who registered their self for estimating their severity level of getting addicted to alcohol in future. If someone wants to know about the results again then he or she do not need to fill the whole questionnaire again. He just has to login with his unique id and can get their results. This helps them to save the time of people. Fig V shows the login details of a patient.
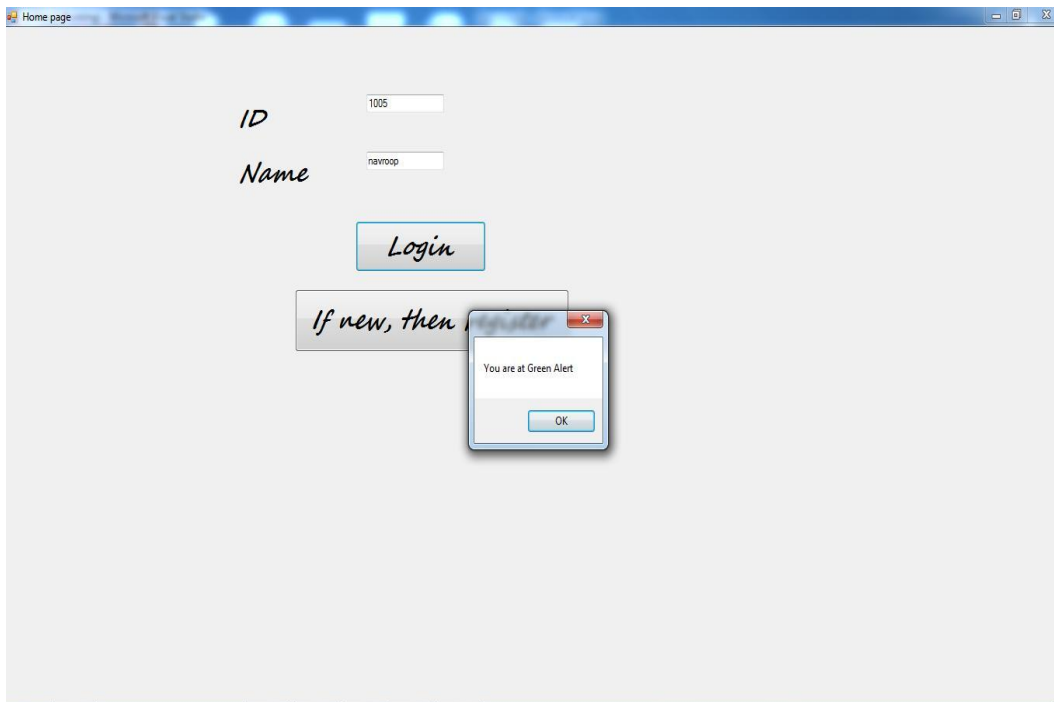
Fig V: Getting results through login into the page

IV. Conclusion and Future Scope

The present findings predict the alcoholic behavior of a person and his level of taking alcohol in future. The software helps the people to know about their addictive behavior and they come to know about the factors that cause themselves to turn into drink. This study divides the results in three parts: Red alert means you will be highly prone to alcohol in future, Yellow alert means you will be at middle level of getting addicted to alcohol, Green alert that means there are very less chances that you will be addicted in future. This tool concludes the results on the basis of data which is collected from addicted people. People who will be at the high level of taking alcohol in future can improve their behavior by knowing their most affected characteristics which turn them to be alcoholic in future. This work can be improved by taking the more attributes that affect the alcoholic person and by surveying the more de-addicted centers to collect the large amount of data from addicted people.

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