

# Juggling Words: A Text Based Game

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**Abstract**—Gaming is a field of computer science which focuses on development of games for the users. Games are categorized as Text Based and Graphic games. Games can also be categorized as online and offline games. Online games require internet and offline games do not require internet connection. This paper presents an introduction to a text based game developed using C#.Net and backend using MS Access. This is an offline games developed as a minor project for the submission of M.Sc (Computer Science) MCA degree.

**Keywords**—Game; text based; juggling words.

## I. INTRODUCTION

Game development is a significant sector of the computer industry. Games can be played online as well as offline. Online games require internet connection whereas offline games do not need internet connection [1]. Games can be categorized as text based and graphic games. A text game or text-based game is a video game that uses text characters instead of bitmap or vector graphics.

The concept of text-based games got popular in the 1980s. Text games are typically easier to write and require less processing power than games with graphics, and thus were more common. Many beginning programmers still create these types of games to familiarize themselves with a programming language. Many companies are developing computerized games. A video game publisher may specialize in only publishing games for developers, or may either have in-house development studios or own subsidiary development companies.

### Juggling letters

Juggling letters is a word puzzle game developed by the authors for the completion of the minor project to be done for the award of M.Sc ( Integrated) MCA course in the Dept. of CS&IT, Central University of Jammu. In this game, a set of jumbled letters is to be arranged by the player with in a given time frame. The player is given some letters on the screen; he/she has to arrange them into a meaningful word within a given time frame. The letters can be shuffled by using twist button. Once he/she successfully guessed the correct word it has to be submitted by clicking on submit button. If the word is correctly guessed, the player jumps to the next level, otherwise goes back to the previous level. The players enters higher levels, the length of the word to be guessed is increased. At present, the game has four levels. These levels can be increased in future. An .exe file of the game program has also been developed.

Other games of the similar nature that are available online are: Text Twist, Super Text Twist [2] and Text Twirl [3]. Other popular text based games are: Hobbit, Torn, Madness and the Minotaur, The spy snatcher, Adventure Island etc [4].

## Objectives

The following objectives were undertaken for the development of the game presented in this research paper.

- To develop a database of words to be used in the game.
- To develop user friendly front end, to enable the user to play the game.
- To enable time limit.
- To enable shuffling of letters using the twist button.
- To develop different levels for the game.
- To embed music in the game

## II. DESIGN AND IMPLEMENTATION

Jumbling letters is a word puzzle game with a set of jumbled letters to be arranged by the player with in a given time frame. The frontend of the game has been developed using C#.Net and backend using MS Access.

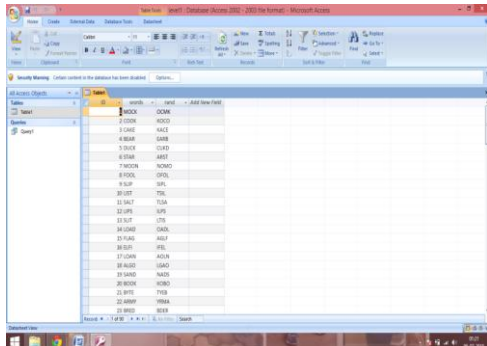
- Front end controls:* The front end controls provided in the game are: Home, Instructions, Play, Sound Off, Twist, Submit, Exit, Quit. They are discussed in the table below:

Table I. Describes the various front control buttons.

Front Control	Description
Home	The click of this button gets the player to the home screen.
Instructions	Instruction button shows the rules of the game to the player.
Play	The play button enables the user to play the the first level of the game
Sound Off	By default background music is on. To disable the sound, the sound off button is used.
Twist	Player can shuffle the given set of letters by using twist button.
Submit	The guessed word can be submitted by clicking on submit button. If the guessed word is correct, player will jumps to next level, otherwise goes back to the previous level.
Exit	Player can quit the game by using Exit button.
Quit	Player can quit from the current level and comes back to the homepage of the game

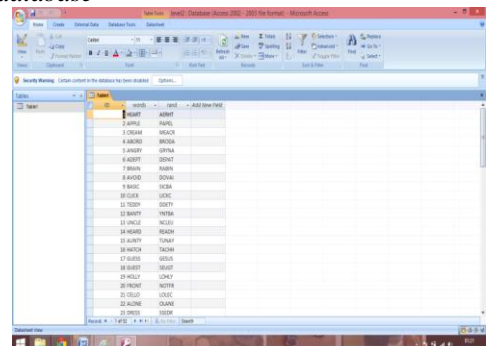
- ii. **Backend:** The database has a table consisting of words for each level. At present the game has four levels and therefore four tables consisting of words for each level. The following screen shots show the tables in the database developed using MSACCESS.

#### Level 1 database



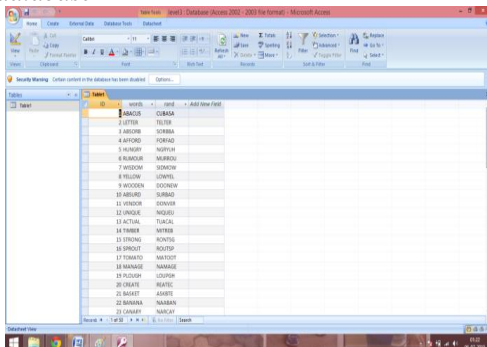
ID	WORD	LEVEL
1	ABANDON	1
2	ABANDON	1
3	ABANDON	1
4	ABANDON	1
5	ABANDON	1
6	ABANDON	1
7	ABANDON	1
8	ABANDON	1
9	ABANDON	1
10	ABANDON	1
11	ABANDON	1
12	ABANDON	1
13	ABANDON	1
14	ABANDON	1
15	ABANDON	1
16	ABANDON	1
17	ABANDON	1
18	ABANDON	1
19	ABANDON	1
20	ABANDON	1

#### Level 2 database



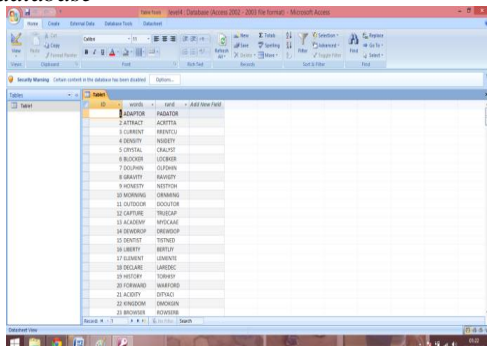
ID	WORD	LEVEL
1	ABANDON	2
2	ABANDON	2
3	ABANDON	2
4	ABANDON	2
5	ABANDON	2
6	ABANDON	2
7	ABANDON	2
8	ABANDON	2
9	ABANDON	2
10	ABANDON	2
11	ABANDON	2
12	ABANDON	2
13	ABANDON	2
14	ABANDON	2
15	ABANDON	2
16	ABANDON	2
17	ABANDON	2
18	ABANDON	2
19	ABANDON	2
20	ABANDON	2

#### Level 3 database



ID	WORD	LEVEL
1	ABANDON	3
2	ABANDON	3
3	ABANDON	3
4	ABANDON	3
5	ABANDON	3
6	ABANDON	3
7	ABANDON	3
8	ABANDON	3
9	ABANDON	3
10	ABANDON	3
11	ABANDON	3
12	ABANDON	3
13	ABANDON	3
14	ABANDON	3
15	ABANDON	3
16	ABANDON	3
17	ABANDON	3
18	ABANDON	3
19	ABANDON	3
20	ABANDON	3

#### Level 4 database



ID	WORD	LEVEL
1	ABANDON	4
2	ABANDON	4
3	ABANDON	4
4	ABANDON	4
5	ABANDON	4
6	ABANDON	4
7	ABANDON	4
8	ABANDON	4
9	ABANDON	4
10	ABANDON	4
11	ABANDON	4
12	ABANDON	4
13	ABANDON	4
14	ABANDON	4
15	ABANDON	4
16	ABANDON	4
17	ABANDON	4
18	ABANDON	4
19	ABANDON	4
20	ABANDON	4

### III. TESTING & RESULTS

The students and faculty of different departments of Central University of Jammu were asked to play the game. 20 people were randomly chosen. They were asked to rate the game according to the score sheet given below:

Table II. Shows the score sheet used to rank the game.

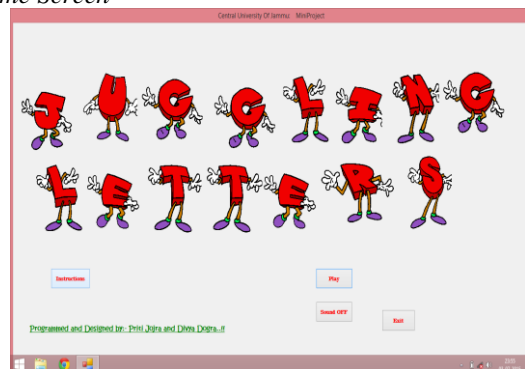
Score	Significance
0	Boring
1	Good
2	Very Good
3	Interesting & Joyful

The results of the score given by the players:  
 Number of person found it as an interesting and joyful game =15,  
 Number of person found it as a very good game =3  
 And number of person found it as a good game =2.  
 Therefore, according to the score given by the players, it is an interesting and joyful game.

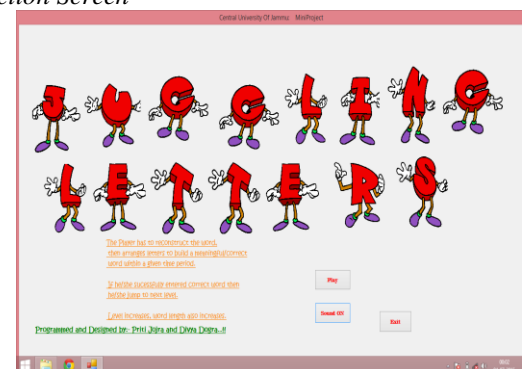
#### Screen shots

The screen shots of various controls and levels are shown below:

#### Welcome Screen



#### Instruction Screen



Level 1 Error screen: wrong word length



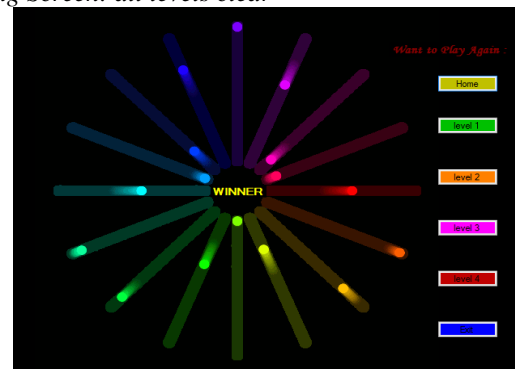
Level 3 Screen



Level 1 Cleared



Winning Screen: all levels clear



Error Screen : No word entered



Screen: Time Out



## REFERENCES

- [1] [www.wikipedia.org](http://www.wikipedia.org)
- [2] <https://games.yahoo.com>
- [3] <https://itunes.apple.com>
- [4] [https://en.wikipedia.org/wiki/List\\_of\\_text-based\\_computer\\_games](https://en.wikipedia.org/wiki/List_of_text-based_computer_games)

