

# Software Engineering Project 1 (Comp 10050)

## Assignment 2 – Film Genie

*Aim of the assignment: to create a simple command line version of a film guessing game called 'FilmGenie'.*

### A. Detailed Specification

For this assignment, you are asked to implement a command line version of a film guessing game in C.

For this assignment, you will need to download “**filmtitles.txt**” from moodle. This file contains a list of 45 classic film titles. To complete this assignment you will need to carry out the following sub-tasks:

- Read and store all films titles from the input file provided.
- When *FilmGenie* starts:
  1. A film title is chosen at random (e.g. 'Blood Diamond') and presented in an anonymous format such as: \*\*\*\*\* to the user.
  2. The user is presented the option of guessing an individual character (by entering the character 'c') or of guessing the film title (by entering the character 'f').
    - **If 'c' is entered:** the user is prompted to enter a character. If the title contains the character, then the anonymised format should be updated accordingly and displayed to user. E.g in above example if user enters an 'o', then the updated anonymous format should look like: \*\*oo\* \*\*\*\*o\*\*. If the title does not contain the character entered, then the user should see a message such as:  
“Your character doesn't exist! Please continue playing.”
    - **If 'f' is entered:** the user is prompted to enter a film title. If the guess is correct, depending on how many guesses they used, the user should see one of the following messages:
      - 1<sup>st</sup> guess: “You're a Genius”
      - 5<sup>th</sup> guess: Phew! “You got it on your last guess”They should then be given the option of playing again by entering 'y' (for yes) and 'n' (for no).
      - **If 'y' is entered:** repeat from **Step 1** above.
      - **If 'n' is entered:** display:  
“Game is Over.. GoodBye”
    - **If some other character is entered:** the user should be notified of an invalid response, and should be given the opportunity to re-enter their choice.

### Additional Notes

- For each film, the user has only a max of 5 guesses. If they exceed this number, they should be given the option of playing again (enter 'y') or quit (enter 'n'). Therefore the number of guesses per film should be recorded.
- When matching characters and film titles entered by the user, all matching functions **should be case insensitive**.
- If you are experiencing issues with scanf, replace calls to scanf of the form **scanf ("%X", &variable);** with:  

```
do {  
    scanf ("%X", &variable) ;  
} while (variable == 10);
```

Alternatively, instead of using scanf you could use *gets/fgets* for inputting char and char[ ] from the user.

To help understand the game better, I have included some sample runs in Section D.

## B. Code Design Requirements

**The use of structs is not a requirement but you may use them if you wish.** For example you could use them to represent a film object.

Similar to assignment 1, you should:

- **Create functions where appropriate.** As part of the assessment, some marks will be given for how your code is organised. So if it makes sense to create a function for some subtask of the bigger problem, then you should.

## C. Your Submission

### 1. Create a new project.

In eclipse, create a new C/C++ project called "*FilmGenie*". Within this project, create a c source file called "*FilmGenie.c*" to hold your solution to this assignment.

### 2. Document your code.

#### C Solutions

You must comment your solution as follows:

1. You should include a short comment at the start of your main c source file, which describes generally how the code works (e.g. describe inputs for the game etc).
2. For each function, you should describe (in a few sentences) the purpose of the function, any parameters of the function and possible return types the function may have.

### 3. Submitting your solution.

Once you've made your final changes to your "*FilmGenie*" project and made sure your code compiles and runs correctly you should submit the source file through the Moodle page. You should also submit a text file containing sample runs of the program.

### D. Sample Runs of the Game

Here are some examples of sample runs of the game, designed to illustrate the game's functionality:

```
----- Sample Run 1 -----
***** Welcome to 'FilmGenie' *****
Your Film Title to Guess is:
* *****

Would you like to guess a character (enter 'c') OR guess the film
(enter 'f'): (user entered 'c')
Please Enter a Character: (user entered 's')
Your character exists! Well done. Please continue playing.
* S**** **S**

Would you like to guess a character (enter 'c') OR guess the film
(enter 'f'): (user entered 'f')
Please Enter your Guess: (user entered "A Space Odyssey")
Woohoooo! You are a true film Genie!!! You got it in 1 guess ;)
Would you like to play again? Yes (enter 'y') OR No (enter 'n'):
(user entered 'n')

Game is Over.. GoodBye
----- End of Sample Run 1 -----
```

```
----- Sample Run 2 -----
***** Welcome to 'FilmGenie' *****
Your Film Title to Guess is:
*****

Would you like to guess a character (enter 'c') OR guess the film
(enter 'f'): (user entered 'i')
Incorrect Input: Please enter a 'c' (guess character) OR 'f' (guess
film): (user entered 'c')

Please Enter a Character: (user entered 'w')
Your character does not exist! Please continue playing.
```

\*\*\*\*\* \*\*\*\*

Please Enter a Character: (user entered 'i')  
Your character exists! Well done. Please continue playing.  
\*\*\*i\*\*\*\*\* \*i\*\*

Would you like to guess a character (enter 'c') OR guess the film  
(enter 'f'): (user entered 'f')  
Please Enter your Guess: (user entered 'Mdsiskddj list')  
Incorrect Guess. Please continue playing..

Would you like to guess a character (enter 'c') OR guess the film  
(enter 'f'): (user entered 'f')  
Please Enter your Guess: (user entered 'sdsdffsa sala')  
Incorrect Guess. Please continue playing..

Would you like to guess a character (enter 'c') OR guess the film  
(enter 'f'): (user entered 'f')  
Please Enter your Guess: (user entered 'sdalsllsl list')  
Incorrect Guess. Please continue playing..  
Would you like to guess a character (enter 'c') OR guess the film  
(enter 'f'): (user entered 'f')

Please Enter your Guess: (user entered 'sdklslllls mist')  
Incorrect Guess. Please continue playing..  
Would you like to guess a character (enter 'c') OR guess the film  
(enter 'f'): (user entered 'f')

Please Enter your Guess: (user entered 'skkkkss')  
Incorrect Guess. Please continue playing..  
Would you like to guess a character (enter 'c') OR guess the film  
(enter 'f'): (user entered 'f')  
Sorry! You have no more guesses!!!!

Would you like to play again? Yes (enter 'y') OR No (enter 'n'):  
(user entered 'n')

Game is Over.. GoodBye

----- End of Sample Run 2 -----