### DESIGN PRACTICES (CSP290)

### ASSIGNMENT – 3



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Password Cracker

Cracking Passwords in a very short span of time is a complicated and tedious job. But this is what the Hackers do. The time required to crack an 8 digit Password is 2 days, while to crack a 12 digit password it will take years. Few Algorithms that are used to crack a password is :-

1) Brute Force

2) Rainbow Algorithm

3) Dictionary Mapping

The method that we have used is the Brute Force Algorithm.We have used Python Library Itertools to implement this.It will generate all the possible combinations starting from length 1 and compare it with the original password until it matches with it.When the password is matched, it will break the system and can enterinto that. Up to 4word letter word it will break in less than 1 minute.

3 Level Password System

1. Level 1 Plane Username based GUI

In a 3 level password system, the 1st level is the simple GUI. In this, we have used a python library which is called Tkinter. It helps in designing GUI. In Level-1 the user will get access only when he will enter the correct username and password.

1. Level 2 Image based GUI

If the user gets access from the Level-1, only then he is allowed to go to Level-2. In this Level, an image is shuffled and the user has to guess the right order of the Image So that the image becomes perfectly complete. To implement this we have used two important Python Libraries PIL(the image library) and image\_slicer. Along with this, we have used OpenCV and tkinter.

1. Level 3 Graph based GUI

It is also known Captcha based password system. Difficulty of this Captcha will be very high so that only intelligent human brain can solve it. If user enters correct captcha then he will get access to complete his important task. To implement this we have used Python Captcha Library along with random and tkinter.