**Research Article**

# Fortifying Online Security: Investigating the Development and Evaluation of a Password Generator Tool

Malvi Thakur

Computer Science & Engineering, Chandigarh University, Chandigarh, Punjab, India.

## INFO

## ABSTRACT

A password generator is a computer program or hardware device that accepts input from an arbitrary or pseudo-random number encoder and produces a password mechanically. Random passwords can be produced manually, using a basic variety of sources such as dice or coins, or automatically, using a computer. While there are several instances of "random" password generator programmes accessible on the internet, producing randomness may be difficult, many programmes do not produce random characters in a secure manner.

**Keywords:** Fortifying Online Security, Password Generator Tool, Pseudo-Random Number

## Introduction

A password generator is a software tool that creates random or customized passwords for users. It helps users create stronger passwords that provide greater security for a given type of access.[1]

Random passwords can be generated manually, using simple sources of randomness such as dice or coins, or they can be generated using a computer. A common recommendation is to use open-source security tools, where possible, since they allow independent checks on the quality of the methods used. Note that simply generating a password at random does not ensure the password is a strong password, because it is possible, although highly unlikely, to generate an easily guessed or cracked password. In fact, there is no need at all for a password to have been produced by a perfectly random process: it just needs to be sufficiently difficult to guess.[2-10]

## Project Details and Working

First, we will have to download & install the Android Development IDE (Android Studio or Eclipse). Android Studio is an open-source development feel free to develop your things.

Here's the link for the Android Studio: https://developer.android.com/studio/index.html.

Given below are the different functions which are used to perform by using this project:

- Layout Design
- Android Manifest File
- The Main Function

**Layout Design:** We will now add some layout to the application.

**Android Manifest File:** The Android Manifest file provides essential information about your app to the Android system in which the system may require before running the code.

**The Main Function:** This code contains the main function of the application. This code will randomly display a certain

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character when the generate button is clicked.

## Components of the Project

1. Ask the user to enter the total number of random passwords they want.
2. Ask the user how long and how many characters they want their passwords to be. (12- 15 characters is a strong password length!).
3. Create a function that generates a random character, which can be a number, a lower-case letter, or an uppercase letter.
4. Create a random password by looping through the total number of passwords and looping through the length of the passwords.
5. Store each random password you generate in an array.
6. Create a function to print out your array of password.

## Acknowledgement

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