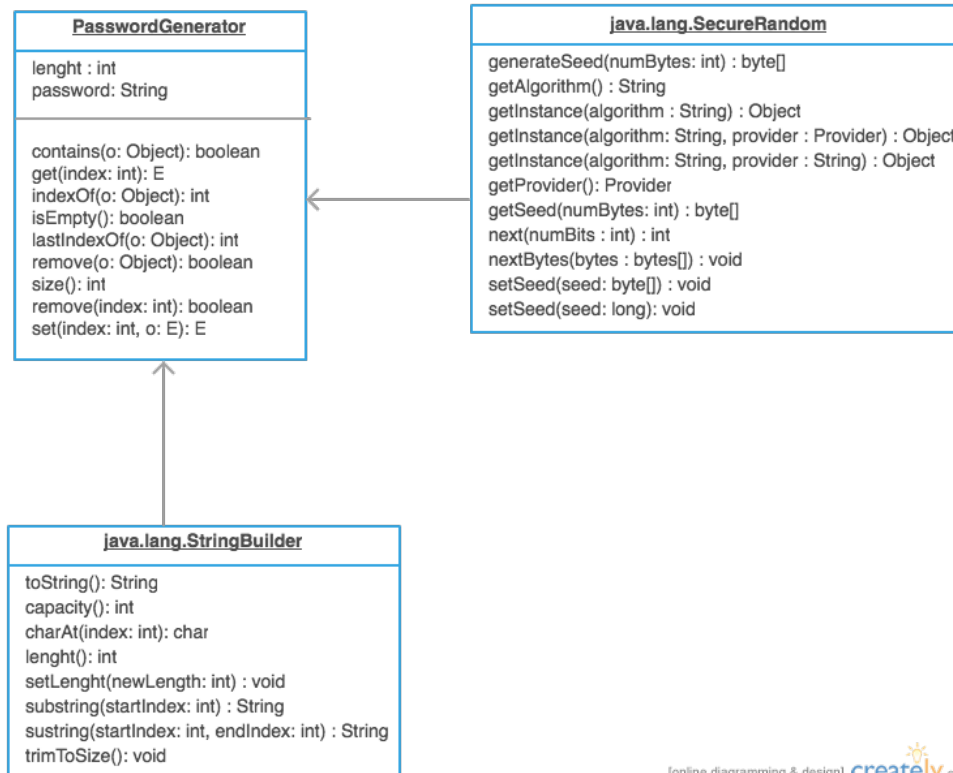Laura Florez
Software Development 1
Pablo Rivas
8 November 2016

Abstract: This project will be focus on creating strong randomly generated passwords. The length of the password will be based on the input of the user. The strength of the output will vary depending of the length. The password will be stronger as it becomes longer.

Introduction: In technology, one of the topics most talked about is security. There is the saying that there are only two types of companies, those who know they have been hacked and those who do not know they have been hacked. There is nothing that cannot be hacked, and one of the most common security methods that are implemented are passwords. Passwords are inexpensive and easy to use. However; users often create passwords that are easily hack through a dictionary attacks or other type of attacks. This program will generate passwords that are secure enough through a random selection of number, letters, and special characters. The rest of the paper will go in more details as to how the program works and interacts with the users.

Detailed System Description:

PasswordGenerator

lenght : int
password: String

contains(o: Object): boolean
get(index: int): E
indexOf(o: Object): int
isEmpty(): boolean
lastIndexOf(o: Object): int
remove(o: Object): boolean
size(): int
remove(index: int): boolean
set(index: int, o: E): E

java.lang.SecureRandom

generateSeed(numBytes: int) : byte[]
getAlgorithm() : String
getInstance(algorithm : String) : Object
getInstance(algorithm: String, provider : Provider) : Object
getInstance(algorithm: String, provider : String) : Object
getProvider(): Provider
getSeed(numBytes: int) : byte[]
next(numBits : int) : int
nextBytes(bytes : bytes[]) : void
setSeed(seed: byte[]) : void
setSeed(seed: long): void

java.lang.StringBuilder

toString(): String
capacity(): int
charAt(index: int): char
lenght(): int
setLenght(newLength: int) : void
substring(startIndex: int) : String
sustring(startIndex: int, endIndex: int) : String
trimToSize(): void

[online diagramming & design] creately.com

The program is very simple. The user is asked how long he/she would like the password to be. Depending on what number the user inputted, the program will select a group of letters, special characters, and numbers and will print it. The program uses inbuilt java classes: StringBuilder and SecureRandom. StringBuilder allows string objects to be modified at any time. SecureRandom provides a strong number generator. A loop runs through both classes, depending on the original input of the user, it produces different string outputs.