# **PROJECT PROPOSAL**

**ACCOUNT RECOVERY MECHANISM USING BOYER-MOORE PATTERN MATCHING ALGORITHMS**

**PROJECT DESCRIPTION**

This project is a web based platform for users to understand basic knowledge of applying a pattern matching algorithm on user’s account recovery system using **Boyer-Moore pattern matching** or string search algorithm as a case study. The application is proposed to educate the public about the relevance of pattern matching algorithm in solving some existing problems which has been proven to be a general method of solutions to works like Words Autocomplete and Intellisence, Examination Scoring, Data Searching, Pictorial Identification, and so on.

Boyer–Moore pattern matching algorithm is an efficient string searching algorithm that is the standard benchmark for practical string search literature. It was developed by Robert S. Boyer and J Strother Moore in 1977. The algorithm preprocesses the string being searched for (the pattern), but not the string being searched in (the text). It is thus well-suited for applications in which the pattern is much shorter than the text or where it persists across multiple searches. The Boyer-Moore algorithm uses information gathered during the preprocess step to skip sections of the text, resulting in a lower constant factor than many other string search algorithms. In general, the algorithm runs faster as the pattern length increases. The key features of the algorithm are to match on the tail of the pattern rather than the head, and to skip along the text in jumps of multiple characters rather than searching every single character in the text.

The project will be designed using PHP scripting and other basic web development tools like Html, Javascript, and mysql for keeping the database contents.

**OBJECTIVES AND AIMS**

The major aim and objective behind this project is to provide a new methodology for tackling an online account recovery mechanism which could serve as improvement to existing technology by putting the alternative questions into consideration using pattern matching algorithm, other related aims are:

1. To create a new method for tackling user’s account recovery.
2. To educate the public about the importance of pattern matching algorithms in computational fields.
3. To develop an application that ease the user’s approach to recover password.
4. To avoid absolute sensitivity in responding to alternative questions during the recovery process.
5. To express the merit of pattern matching algorithm over using arithmetic equals sign for comparing data.

**SCOPE AND LIMITATIONS**

The project is to be designed as a website platform to be designed to maintain the following scope:

1. An interface for user to create personal account as a necessity to test the need for pattern matching.
2. A series of interfaces to edit user’s profile, set recovery options, view relative blogs.
3. A platform for users to select a method to recover personal accounts if the password is forgotten or any other need to recover the user’s account.
4. Some platforms that allows users to recover password including the pattern matching application to alternative recovery option.

The project may only require local testing and will only address the pattern matching algorithm mechanism using Boyer-Moore string searching algorithm as a case study.

**THE METHODOLOGY FOR DESIGN**

This project research and design will mostly takes place online where pictures, ebooks, and other materials related to pattern matching algorithms will be sourced downloaded to develop the project. The project will also use PHP script and other web design scripts and a pattern matching class will be created as a plugins to be called as a method of comparison in the website, MySQL for the database design and communication.

**IMPLEMENTATION**

Software Requirements Includes:

1. A web browser like Mozilla Firefox, Google Chrome, etc.
2. A Local web Server like Wamp for Windows OS, Lamp for Linux OS, Xampp for other OSs.
3. A database Server fot offline data storage like MySQL.
4. A working Operating System.
5. A Programming Development Tools Like Sublime Text, Netbeans, or the likes for developing the aplication.

Hardware Requirements Includes:

1. A working Computer System.
2. A system with working Network Adapter for the case of remote testing if necessary.
3. A large inbuilt storage drive ranging from 120GB HD and above.
4. A volatile storage capacity of 2GB RAM and above.