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NETWORK SECURITY HOTSPOT AND USER LOGIN WITH METHOD CRYPTOGRAPHY

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ABSTRACT

Sekolah Tinggi Manajemen Informatika dan Komputer (STMIK) Royal is a campus which is engaged in education which focus on the field of information technology, in daily activities STMIK Royal Kisaran provide services to students by providing a network wifi/hotspot which can be used by students at any time as long as they are in the campus area, all this time hotspot on the stmik royal only use security in the form of a password using the method WPA2 PSK. Although already using the method WPA2 PSKnot infrequently still occur network leaks so people who are not entitled and are responsible can use the network hotspot which is intended for students, there are also students who make withdrawals bandwidth excessive, this condition needs to be handled by increasing security on network hotspot with used method kriptografi,so security and network usagehotspot can be more controlled. Utilization of cryptography and authentication login will be able to increase comfort and safety from network users and can prevent unauthorized people to access the network wireless available so that it can reduce attack and force login.

INTRODUCTION

Hotspot is one of the facilities used to attract interest from customers in the culinary, transportation, tourism and education worldn. Good hotspot service can increase people's enthusiasmg for
come to campus and register,with appropriate facilitieswith Changing times and the needs of millennials who depend on the internet making amenities hotspot very popular especially the limited money to buy an internet package.

Hotspot is an internet based network wireless which is intended for the public in the campus environment, school, mall, library and othersn.[1]–[3].

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In providing hotspots also need to pay attention to existing security, many types and methods of security that can be applied as WEP, WPA, WPA2 PSK, Radius, user autentifikasi and other [4],[5]. The function is to secure hotspot and do user management so that hotspot right on target and no leakage badwidth.

In terms of security so far stmik royal still using the method WPA2 PSK, this security system apparently there are still many gaps and unauthorized persons can enter, because the difficulty of maintaining confidentiality from security key used, so that Person in charge network it must change the keys frequently, to overcome problems which exists the writer wants to apply user authentication with cryptographic method.

cryptographic is ways to secure and hide messages in network so that can anticipating tapping conducted by hackers.[6]–[8]. cryptographic and user authenticationthis will be used later used mikrotik, mikrotik is network device which is used as a router which can also be used as[9],[10].

METHOD

In doing this research it is necessary to make a research framework, so that this research will be directed later. The research framework is as follows:

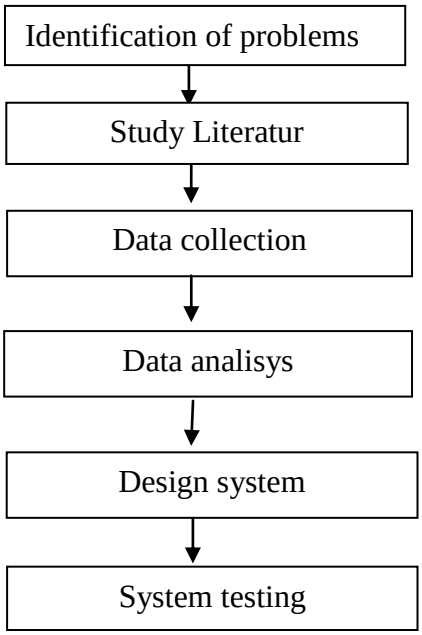

Image 1. Research Framework

Based on Research Framework the research described above, then it can be deciphered the discussion of each stage in the study is as follows:

1. Identification of problems
   At this stage will be identified problems that exist at STMIK Royal Kisaran.

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2. Study Literatur
   At this stage Researchers look for journals and books related to research topics.
3. Data collection
   At this stage data collection process is carried obtained from the results study literatur and observation.
4. Data analisys
   At this stage an analysis of existing data is carried out.
5. Design system
   At this stage the proposed security / system is designed
6. System Testing
   1) *Unit testing*
      Testing of each device which is connected to the server *client* already connected properly and correctly.
   2) *Subsystem Testing*
      Testing of the collection of devices that make up a *subsystem (Hardware).*

RESULT AND DISCUSSION

1. Login Page

Success page Login is a page after successfully logging in *website login hotspot* by inputting id dan *password* that has been on *encrypt*

Image 2. Success page Login

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The image 2 above is this page is used to import the user name and password for hotspot users so they can connect to the network.

2. Generator Page

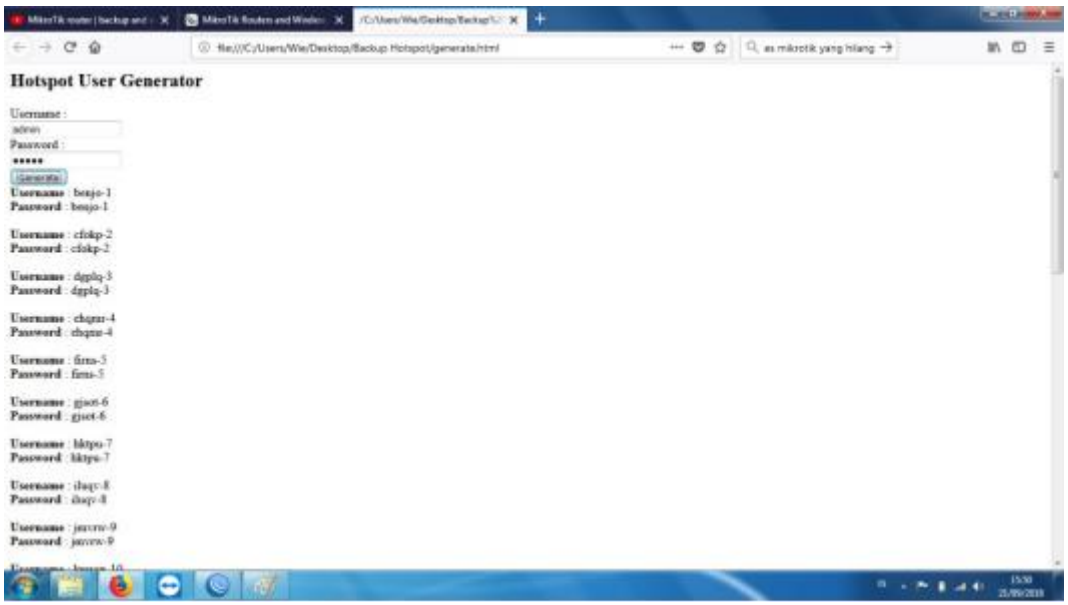

Image 3. Display *Hospot User Generator*

This image 3 is a page that is used to generate user names and passwords for hotspot users

3. Source Code Cryptography Page

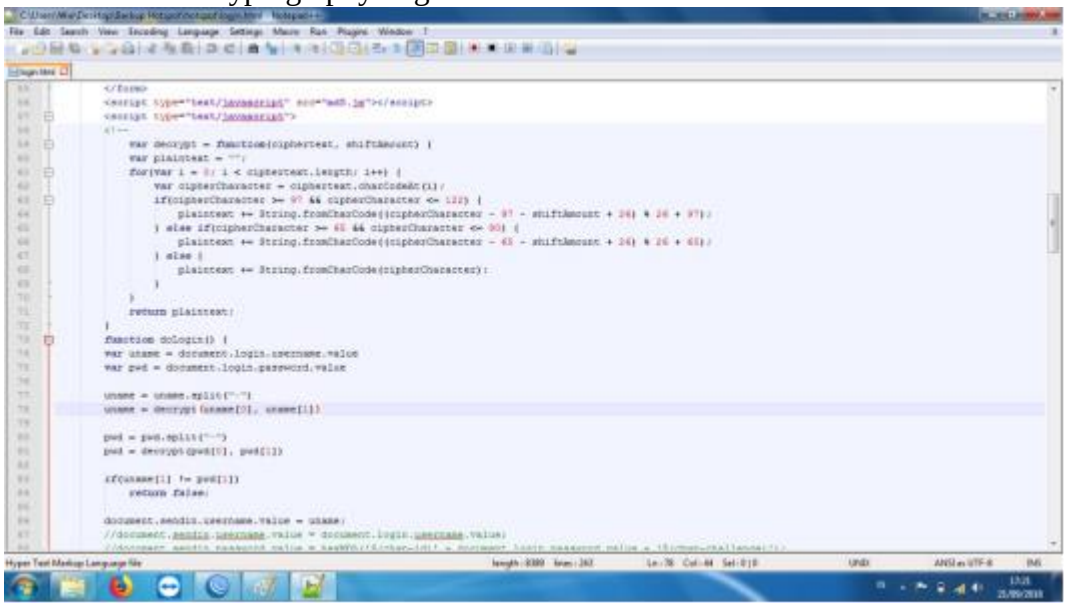

Image 4. Display *Source Code* Cryptography

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This image 4 above is the source code of the cryptography used in hotspsot at STMIK Royal Kisaran.

Table 1. ***Testing Login***

In Data	Expected Process	Observation	Conclusion
Normal Data			
In data username and password	Can enter the system through form login	The process was successful as expected	Running
Lack of data			
Did not enter any data	The system rejects the process	The process was successful as expected	Running
Ncorrect data			
Input the data login is wrong	The system reject the process	The process was successful as expected	running

CONCLUSION

From the results of the tests carried out, it can be concluded that by implementing user authentication and cryptography on the hotspot network at STMIK Royal Kisaran, the user who wants to be connected to the STMIK Royal Kisaran hotspot has to log in first to the web login page that has been provided, by inputting the id and password (redirect link) before enjoying hotspot services which serve as security for access to the hotspot in the form of authentication. With an understanding of cryptography, the security of data transactions on hotspot networks is safer than using WPA2 SPK.

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