CERTIFICATION

This is to certify that this project, DEVELOPMENT OF A DATA ENCRYPTION APPLICATION FOR IMPROVED SECURITY ON WIRELESS NETWORKS was carried out by AKPIKIE, Oghenemairo with the matriculation number: SSE/011/10038 and supervised by Dr. A.O Akinwunmi

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Dr. A.O Akinwunmi Date

Supervisor's Signature

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Dr. O.O Adeosun Date

Head of Department's Signature

DEDICATION

I dedicate this project to God Almighty for his strength and protection during the period of the preparation of my project, my parent Mr. and Mrs. Akpikie and my friends who have been helpful in so many ways.

ACKNOWLEDGEMENT

I will like to acknowledge God almighty the creator of heaven and earth for his grace and favour upon my life, my parent Mr. & Mrs. Akpikie for their immense support in every way possible, my department HOD: Dr. O.O Adeosun, my supervisor: Dr. A.O Akinwunmi, my departmental lecturers: Dr. A.B.C Robert, Dr. O.G Lala, Mr. R.F Famutimi, Dr.Mrs. O.N Emuoyibofarhe, Mr. J.A Akinpelu, , Dr. M.O Oyetunji, Mrs. E.A Oladeji, Miss M.O Jayeola, Miss O.O Balogun, Mr. S. Adebayo, Mrs. R.F. Olorunfemi, Mr A.O. Ibitoye, Mr. H.O. Aworinde, Mr. O.B. Adeleke, Mr. A.A. Adetona, Mr. A.A. Alao, Engr. F.O Alamu, Mr. O.B Adeleke, Mrs. O.O Olaniran, Mr. A.A Adetona, Mr. Udo, Mr. Ayanniyi, Mr. E.K Olatunji, Miss. A.O Abiodun, , Dr. B.S Afolabi, Prof. E.O Omidiora, Prof. S.O Olabisi, Prof. Justice .O. Emuoyibofarhe, Prof. Sorinyan for their immense help, also to my friends: Ojo Oreoluwa, Kasali Oluwatobi, my roomates: Adamson Sodiq, Egunjobi Damola, Oladele Tolulope, Akano Olalekan, Adegboye Alex and all who have contributed to this point in the success of my academic pursuit. You all are deeply appreciated.

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ABSTRACT

Wireless networks today have many advantages, but it is also coupled with new security threats and alters the organization's overall information security risk profile. Although the usual solutions to these security risks lies in technological solutions, but wireless security is primarily a management issue. Effective management of the threat associated with wireless technology requires a sound and thorough assessment of risk given the environment and development of a plan to mitigate identified threats. Therefore communication serves as a livewire in all, the need for communication has brought up the issue on the use of computers for communication through networks around the world, but the issue on the safety of the communication, data transfer or the communication link. The study was designed, implemented and tested.

An encryption system was designed, implemented and tested. The encryption system was designed using C#. The system was implemented using Elliptic Curve Diffie-Hellman encryption and the application was tested on several computer systems to ascertain the functionality using windows 7 and windows 8.1 platforms.

The project provides security in sending and receiving of data in a wireless network. The encryption software sends and receives data/packages securely without interference of intruders.