\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

WebRTC: Secure Messenger

An Abstract of

a Thesis

Presented to the Faculty of

Department of Computer Science

Western Illinois University

In Partial Fulfillment

of the Requirements for the Degree

Master of Computer Science

By

Dennis McMeekan

May, 2021

ABSTRACT

Type a brief description of the problem, the methods, techniques, and data used and the major finding of the study. Abstract should not exceed 350 words

In recent years, WebRTC applications have been used to establish real-time communication between two or more peers. Specifically, this product has been taken by large cooperation’s and modified to their specific needs. This provides a great security flaw to the open-source community, as no protocols have been established on proper use of these type of applications.

APPROVAL PAGE

This thesis by Dennis McMeekan is accepted in its present form by the Department of Computer Science of Western Illinois University as satisfying the thesis requirements for the degree Master of Computer Science.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chairperson, Examining Committee

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Member, Examining Committee

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Member, Examining Committee

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

WebRTC: Secure Messenger

An Abstract of

a Thesis

Presented to the Faculty of

Department of Computer Science

Western Illinois University

In Partial Fulfillment

of the Requirements for the Degree

Master of Computer Science

By

Dennis McMeekan

May, 2021

ACKNOWLEDGMENTS

Grateful acknowledgment is extended to Dr. Binto George, thesis supervisor, and committee members Dr. Nilanjan Sen and Dr. Chunying Zhao for their valuable suggestions and guidance given in this thesis project. I especially want to thank...

TABLE OF CONTENTS

Acknowledgments . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ii

Table of Contents . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . iii

Chapter 1 – Introduction . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . iii

Chapter 2 – Literature Review . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . iii

Subtitle A . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

Subtitle B . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

Subtitle C . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

Chapter 3 - Research Methodology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

Chapter 4 - Findings & Analysis of Data . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

Chapter 5 - Summary, Conclusions and Recommendations . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

References Cited . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

Appendices . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 50

LIST OF TABLES

No. Title Page

I. Bureau of Prison Facilities Activated in last 5 years . . . . . . . . . . . . . . . . . . . . . . 16

II. Bureau of Prison Facilities in the Planning or Constructive Stage . . . . . . . . . . . 17

III. Federal Prisoner Population Projections (1996-2006) . . . . . . . . . . . . . . . . . . . . . . 25

IV. Iowa Prison System (as of July 1, 2000) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 28