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Thanking You
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DECLARATION

I **Prajwal H S**, hereby declare that this dissertation work titled “**A Data Analytics Approach to the Cyber Crime Underground Economy**” has been carried out independently by us under the guidance of **Soumya B**, Assistant Professor & Head, Department of Computer Science and Engineering, MRIT, Mandya in partial fulfillment of the requirement of the degree BACHELOR OF ENGINEERING in Computer Science and Engineering under VTU Belagavi.

We further declare that we have not submitted this dissertation either in part or full to any other university for the award of any degree.

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ABSTRACT

Despite the rapid escalation of cyber threats, there has still been little research into the foundations of the subject or methodologies that could serve to guide Information Systems researchers and practitioners who deal with cyber security. In addition, little is known about Crime-as-a-Service (CaaS), a criminal business model that underpins the cybercrime underground. This research gap and the practical cybercrime problems we face have motivated us to investigate the cybercrime underground economy by taking a data analytics approach from a design science perspective.

To achieve this goal, we propose (1) a data analysis framework for analyzing the cybercrime underground, (2) CaaS and crime ware definitions, and (3) an associated classification model. In addition, we (4) develop an example application to demonstrate how the proposed framework and classification model could be implemented in practice. We then use this application to investigate the cybercrime underground economy by analyzing a large dataset obtained from the online hacking community. By taking a design science research approach, this study contributes to the design artifacts, foundations, and methodologies in this area.

Moreover, it provides useful practical insights to practitioners by suggesting guidelines as to how governments and organizations in all industries can prepare for attacks by the cybercrime underground market where illegal services are provided to help underground buyers conduct cybercrimes, such as attacks, infections, and money laundering in an automated manner”. Thus, CaaS is referred to as a do-it-for-me service, unlike crimeware which is a do-it-yourself product. Because CaaS is designed for novices, its customers do not need to run a hacking server or have high-level hacking skills.

Table of Contents

CONTENTS	PAGE NO.
ACKNOWLEDGEMENT	i
DECLARATION	ii
ABSTRACT	iii
LIST OF CONTENTS	iv
LIST OF FIGURES	vi
LIST OF TABLES	vii
LIST OF SNAPSHOTS	viii

TABLE OF CONTENTS

Chapter 1 Introduction	01
1.1 Domain Overview	01
1.2 Project Overview	01
1.3 Existing System	02
1.4 Drawback of Existing System.....	02
1.5 Problem Statement	03
1.6 Project Scope & Motivation.....	04
1.7 Proposed System.....	04
1.8 Advantages of Proposed System.....	05
1.9 Objective of the Project	06
1.8 Organization of Report	06
Chapter 2 Literature Survey.....	07
2.1 Literature Review.....	07
2.2 Conclusion of Review	09
Chapter 3 Software Requirement Specification.....	10
3.1 Introduction.....	10
3.2 Functional Requirements	11
3.3 Non-Functional Requirements	11

3.4 System Requirements.....	13
3.4.1 Hardware Requirements	13
3.4.2 Software Requirements	13
Chapter 4 System Design	15
4.1 Introduction to System Design	15
4.2 High Level Design	15
4.2.1 System Architecture	16
4.2.2 Data Flow Diagram	17
4.3 Low Level Design	18
4.3.1 Flow Chart	18
4.3.2 Sequence Diagram	19
4.3.3 Use Case Diagram	20
4.3.4 Activity Diagram	21
Chapter 5 System Development.....	22
5.1 Introduction to System Development	22
5.2 Module & Methodology	23
5.2.1 Sub Module1	23
5.2.2 Sub Module2.....	24
Chapter 6 Implementation.....	25
6.1 Introduction to System Implementation.....	25
6.2 Language Used for Implementation.....	25
6.3 Algorithm.....	26
6.4 Snapshot of Code Snippet.....	27
Chapter 7 Testing.....	29
7.1 Introduction to Testing	29
7.1 Testing Types.....	29
7.2 Test Cases	30
Chapter 8 Result Analysis.....	32
8.1 Snapshots with Description.....	32
Conclusion	36
Future Work	37
References.....	38

LIST OF FIGURES

Figure No	Description	Page No
Fig 4.2.1	System Architecture of Proposed model	16
Fig 4.2.1(i)	Data Flow Diagram for admin model	17
Fig 4.2.1(ii)	Data Flow Diagram for user	17
Fig 4.3.1	Flow Chart	18
Fig 4.3.2(i)	Sequence Diagram for User	19
Fig 4.3.3(ii)	Sequence Diagram for Admin	19
Fig 4.3.3(i)	Use Case Diagram for Entity/Admin	20
Fig 4.3.3(ii)	Use Case Diagram for Entity/User	20
Fig 4.3.4	Activity Diagram	21
Fig 5.1	Implementing System Development	22
Fig 5.2.1	System Design Modules	23
Fig 5.2.2	Modules for Implementation	24
Fig 6.2.2	Django Web Framework	26

LIST OF TABLES

Table No	Description	Page No
Table 2.1	Literature Review	08-09
Table 3.4.2	Software Requirement Specification(SRS) table	14
Table 7.2	Test Cases	31

LIST OF SNAPSHOT

Snapshot No	Description	Page No
Snapshot 1.5	Problem faced by Companies due to Cubercrime	03
Snapshot 6.4.1	urls.py(code snippet)	27
Snapshot 6.4.2	models.py(code snippet)	28
Snapshot 6.4.3	views.py(code snippet)	28
Snapshot 8.1.1	Login Page	32
Snapshot 8.1.2	Registration Page	32
Snapshot 8.1.3	Upload File Page	33
Snapshot 8.1.4	View File Uploaded Page	33
Snapshot 8.1.5	Download Page	33
Snapshot 8.1.6	Admin view upload Page	34
Snapshot 8.1.7	Admin view request Page	34
Snapshot 8.1.8	Feedback Page	34
Snapshot 8.1.9	Positive Conversation Page	35
Snapshot 8.1.10	Negative Conversation Page	35
Snapshot 8.1.11	CSV File in Exel Conversation	35
Snapshot 8.1.12	Data Analysis Graph	36