

**DEVELOPMENT OF ELECTRONIC VOTING SYSTEM USING AGILE AND
COMPONENT BASED APPROACH**

By

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DECLARATION

It is hereby declared that this research work titled “Development of Electronic Voting System Using Agile and Component based approach” was undertaken by Mr. Falade Adesola Muritala and is based on his original study in the Department of Computer and Information Sciences, College of Science, Covenant University, Ota, under the supervision of Dr. A. Adebiyi. The ideas and views expressed in this research work are those of the researcher, and the views of other researchers have been duly acknowledged.

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CERTIFICATION

This is to certified that this research work entitled “ Development of Electronic Voting System using Agile and Component based Approach” was carried out by **Falade Adesola** for the award of MSc. Degree in Computer Science in the Department of Computer and Information Sciences, School of Natural and Applied Sciences, College of Science and Technology, Covenant University, Ota, Ogun State.

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List of Abbreviations and Acronyms

| | |
|---------------------|--|
| EVM | : Electronic Voting Machine |
| i-Voting | : Internet Voting |
| M-Voting | : Mobile Voting |
| e-Voting | : Electronic Voting |
| K-Voting | : Kiosk Voting |
| DRE | : Direct Electronic Recording |
| e-Government | : Electronic Government |
| SDK | : Solution Development Kit |
| DDCM | : Direct Data Capture Machine |
| PVC | : Permanent Voters Card |
| OOP | : Object Oriented Programming |
| CORBA | : Common Object Request Broker Architecture |
| CBSE | : Component Based Software Engineering |
| RAS | : Reliability, Availability and Serviceability |
| COCOMO | : Constructive Cost Model |
| FPA | : Function Point Analysis |
| ERP | : Enterprise Resource Planning |
| COTS | : Commercial-Off-The-Shelf |
| ACM | : Association of Computer Machinery |

TABLE OF CONTENTS

| | |
|--|--------|
| Certification | ... |
| ... i | |
| Acknowledgements |ii |
| List of Abbreviations and Acronyms..... | iii |
| Table of Contents | iv |
| List of Figures | vi |
| List of Tables | vii |
| Abstract | ...ix |

CHAPTER ONE

1 INTRODUCTION

| | |
|---------------------------------------|---|
| 1.1 Background Information | 1 |
| 1.2 Statement of the Problem | 4 |

| | |
|---|---|
| 1.3 Aim and Objectives | 5 |
| 1.4 Research Methodology | 6 |
| 1.5 Significance of the Study | 8 |
| 1.6 Scope and Limitation of the Study | 8 |
| 1.7 Structure of Dissertation | 8 |

CHAPTER TWO

2 LITERATURE REVIEW

| | |
|---|----|
| 2.1 Background Information of e-Voting..... | 10 |
| 2.2 Why use e-Voting | 10 |
| 2.3 e-Voting experiences around the world | 11 |
| 2.3 Why adopting agile? | 13 |
| 2.2 Overview of Agile Development..... | 14 |
| 2.4 Extreme Programming..... | 15 |
| 2.5 Overview of CBSE..... | 16 |
| 2.2 Overview of e-Voting system..... | 19 |
| 2.7 The CBSE | |

| | |
|-------------------------------------|----|
| Lifecycle | 20 |
| 2.8 The e-Voting System Development | |
| Tools | 21 |

CHAPTER THREE

SYSTEM ANALYSIS, DESIGN & IMPLEMENTATION

| | |
|--|----|
| 3.1 Introduction | |
| | 23 |
| 3.2 Materials and Methods | |
| | 23 |
| 3.3 Conceptual Development | |
| Framework..... | 25 |
| 3.4 Requirements | |
| Analysis | 28 |
| 3.5 Requirements Modelling | |
| 30 | |
| 3.5.1 Use Cases | |
| 30 | |
| 3.5.1.1 Administrator's Use case for e-Voting..... | |
| 30 | |
| 3.5.1.2 Use Cases for Voters Registration | |
| 30 | |
| 3.5.1.3 Use Cases for Party Registration | |
| 31 | |
| 3.5.1.4 Use Cases for Accreditation | |
| 32 | |
| 3.5.1.5 Use Cases for e-Voting | |
| 32 | |
| 3.5.2 Component | |

| | |
|---|----|
| Diagrams | 32 |
| 3.5.3 Collaboration Diagrams..... | 34 |
| 3.5.4 Sequence Diagrams | 35 |
| 3.5.5 Class Diagram | 38 |
| 3.5 System and Software Design | 39 |
| 3.8 Elaborated Deployment..... | 41 |
| 3.9 Implementation and Testing..... | 41 |
| 3.10 System Integration..... | 41 |
| 3.11 System Verification and Validation | 43 |

CHAPTER FOUR

4 RESULTS AND DISCUSSION

| | |
|--|----|
| 4.1 Productivity Measurement: Estimation-by-Proxy and Objective Measurement | 49 |
| 4.1.1 Software Estimation Technique: Function Point Analysis (FPA) | 49 |
| 4.1.2 Software Estimation Technique: Constructive Cost Model | |

(COCOMO) 49

4.1.3 System Evaluation using (RAS Benchmark Metrics)
..... 50

CHAPTER FIVE

5 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary
54

5.2 Conclusion
54

5.3 Recommendations and Further Work
55

REFERENCES
56

APPENDIX
60

LIST OF FIGURES

| | |
|---|-----------|
| Figure1.1 Activity workflow of the Research Methodology | 7 |
| Figure 2.1. Extreme Programming Practices..... | 16 |
| Figure 2.3. Middleware services defined in a component model | 18 |
| Figure 2.4. Basic elements of a component model | 19 |
| Figure 3.1 The Framework of the e-Voting system | 25 |
| Figure 3.2. Use Case Model of the e-Voting System..... | 26 |
| Figure 3.3. Password design..... | 27 |
| Figure 3.5 Administrator Use Case Diagram of the e-Voting System..... | 29 |
| Figure 3.6 Voter’s Registration Use Case..... | 29 |
| Figure 3.71 e-Voting Component Diagram | 33 |
| Figure 3.72 Collaboration diagram for Voter’s Registration | 33 |
| Figure | 3.73 |
| e-Voting | Component |

| | |
|--|----|
| Diagrams | 34 |
| Figure 3.74 Collaboration diagram for Voter's Registration | 34 |
| Figure 3.75 Collaboration diagram for Party Registration..... | 35 |
| Figure 3.76 Collaboration diagram for the Candidate Registration..... | 35 |
| Figure 3.77 Collaboration diagram for Voting | 36 |
| Figure 3.81 Sequence diagram for Voter's Registration | 36 |
| Figure 3.82 Sequence diagram for Party Registration..... | 36 |
| Figure 3.83 Sequence diagram for the Candidate Registration..... | 37 |
| Figure 3.84 Sequence diagram for Voting | 36 |
| Figure 3.91 Class diagram for Voter's Registration | 37 |
| Figure 3.92 Class diagram for Party Registration..... | 39 |
| Figure 3.93 Class diagram for the Candidate Registration..... | 40 |
| Figure 3.94 Elaborated Deployment diagram for e-Voting System..... | 41 |
| Figure 3.95 e-Voting Sub-system Composite Component Interface Testing..... | 43 |
| Figure 3.951 Management Login Page for the e-Voting System | 45 |
| Figure 3.952 e-Voting Software Main Page | |

| | |
|---|----|
| | 44 |
| Figure 3.953 Voter's Registration Page of the e-Voting Software | |
| | 45 |

LIST OF TABLES

| | |
|---|----|
| Table 1.1 Objective-methodology mapping..... | |
| 7 | |
| Table 2.1 Microsoft Visual Studio | |
| Features..... | 22 |
| Table 3.1 Units in the e-Voting System Decision Nodes..... | |
| 23 | |
| Table 3.2 Inter e-Voting Components Cross cutting Features..... | |
| 24 | |
| Table 3.3 Users Requirements | |
| 28 | |
| Table 3.4 Administrator Use Case for e-Voting System..... | |
| 29 | |
| Table 3.5 Use Case for Voters Registration..... | |
| 30 | |
| Table 3.6 Use Case for Voter's Registration..... | |
| 30 | |
| Table 3.7 Party Registration Use Case | |
| 30 | |
| Table 3.8 Candidate Registration Use Case | |

| | |
|---|--|
| 31 | |
| Table 3.9 Voting Use Case | |
| 32 | |
| Table 4.0 Requirement Traceability Matrix | |
| 34 | |

ABSTRACT

Voting is an essential and crucial aspect of any election and involve the processes of

electing leaders or representatives into positions of authority in a democratic system of government. This process is usually marred with multiple irregularities such as falsification of results, identity theft, stolen of ballot boxes, multiple voting problems, double voting , over voting, delay in the release of voting results, and electoral fraud just to mention a few as commonly associated problems with elections in developing countries in which Nigeria is no exception. In this research, we aim at solving the various difficulties and anomalies associated with manual based voting processes by using agile development and components based software engineering principles to evolve a robust and reliable electronic voting system that can be used to conduct national election and any other election in the country. This will enhance and guarantee the credibility of the electoral processes and show a true reflection of the wishes of the people. However, the need for speed, reusability and adaptability informed this effort to apply agile and Component based approach (CBSE). The researcher engaged in requirements analysis, design, implementation, and evaluation of the system using RAS benchmark metrics and estimation techniques like function point analysis (FPA) and constructive cost model (COCOMO).