**ABSTRACT**

The study developed an Andoid-based Queuing System Using QR Code entitled “Genqu3”. Its features include the following: (1) allows companies to post configurable initial setup of transactions; (2) generates QR code for customer’s queue; (3) provides real-time transaction; (4) and provides notification for customer. It was developed using Android Studio 3.1, MySQL, PHP, Codeigniter 3, and Bootstrap 3. In order to determine the acceptability of the program, the system was evaluated by 50 respondents composed of selected students in Technological University of the Philippines – Manila and 10 IT professionals. The system was evaluated according to ISO 25010 criteria, under which 67.40% of the overall respondents rated the system as “Highly Acceptable”.

**ACKNOWLEDGEMENT**

This thesis owes its existence to the help, support, and inspiration of several people. First and foremost, we would like to give our warmest thanks to the one above all, our Almighty God, for the unending strength, hope, and guidance He gave us to work on this thesis.

We would like to thank our thesis advisor Prof. Darwin C. Vargas. The door to Prof. Vargas office was always open whenever we ran into a trouble spot or had a question about our research or writing. He consistently allowed this paper to be our own work but steered us in the right the direction whenever he thought we needed it.

Finally, we must express our very profound gratitude to our parents for providing us with unfailing support and continuous encouragement throughout our years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them. Thank you.

We are very grateful to all the people we have met along the way and have contributed to the development of this thesis.

* E. Evangelista, C.A. Lelis, K. Teves

**TABLE OF CONTENTS**

**Page**

Title Page 1

Approval Sheet 2

Abstract 3

Acknowledgement 4

Table of Contents 5

List of Tables 7

List of Figures 8

List of Appendices 10

**Chapter 1 THE PROBLEM AND ITS SETTING**

Background of the Study 11

Objectives of the Study 13

Scope and Delimitations of the Study 14

Significance of the Study 15

**Chapter 2 CONCEPTUAL FRAMEWORK**

Review of Related Literature 16

Related Studies 58

Conceptual Model of the Study 68

Operational Definition of Terms 70

**Chapter 3 METHODOLOGY**

Project Design 71

Project Development 80

Operation and Testing Procedure 85

Evaluation Procedure 87

**Chapter 4 RESULTS AND DISCUSSION**

Project Description 90

Project Structure 91

Project Capabilities and Limitations 106

Project Evaluation 108

**Chapter 5 SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS**

Summary of Findings 114

Conclusions 115

Recommendations 115

**REFERENCES 116**

**CURRICULUM VITAE 143**

**LIST OF TABLES**

**Table Page**

1 Use Case Title and Description 84

2 Functionality, Portability and Usability: Test of the developed system 86

3 Rating Scale for the Evaluation Instrument 89

4 Scale Range and its Qualitative Interpretation 89

5 Application Simulation Result 107

6 Frequency of Functionality 109

7 Frequency of Efficiency 109

8 Frequency of Compatibility 110

9 Frequency of Usability 110

10 Frequency of Reliability 111

11 Frequency of Security 111

12 Frequency of Maintainability 112

13 Frequency of Portability 112

14 Respondents’ Overall Frequency Rating of the System 113

**LIST OF FIGURES**

**Figure Page**

1. The Conceptual Model of the Study 68
2. Block Diagram 72
3. Context Diagram of the System 73
4. Data Flow Diagram 74
5. Administrator Use Case Diagram 76
6. Company Use Case Diagram 77
7. Window User Case Diagram 77
8. Customer Use Case Diagram 78
9. Entity Relationship Diagram of the System 79
10. Waterfall Diagram 80
11. Home Page 91
12. Signup Page 91
13. Login Page 92
14. Company Dashboard 92
15. Add Transaction Type Page 93
16. Add Transaction Account Page 93
17. Update Transaction Account Page 94
18. Mobile Users Page 94
19. Settings Page 95
20. Queue Page 95
21. Mobile Users Page – Window 96
22. Admin Dashboard 96
23. Companies Page 97
24. Company’s Details Page 97
25. Mobile Users Page – Admin 98
26. Mobile User’s Details Page 98
27. Settings Page – Admin 99
28. Signup Page – Android Application 99
29. Login Page – Android Application 100
30. Profile Page – Android Application 100
31. Company Page – Android Application 101
32. Transaction Page – Android Application 101
33. Confirm Transaction Page – Android Application 102
34. Manage Transactions Page – Android Application 102
35. Pending Transactions Page – Android Application 103
36. Pending QR Code – Android Application 103
37. Past Transactions Page – Android Application 104
38. Past QR Code – Android Application 104
39. Settings Page – Android Application 105
40. Notification – Android Application 105

**LIST OF APPENDICES**

**Appendix Page**

1. Evaluation Instrument 131
2. Sample of Answered Evaluation Sheet 134
3. Summary of Respondents Evaluation 136
4. Gantt Chart 138
5. User’s Manual 139