

الآلية

وَالَّذِينَ اسْتَجَابُوا لِرَبِّهِمْ وَأَقَامُوا الصَّلَاةَ وَأَمْرُهُمْ شُورَ عَوْبِينَهُمْ رَزَقْنَاهُمْ يُنْفِقُونَ {

الشوري الآية 38

الحمد لله

الحمد لله الواحد المعبود ، عم بحكمته الوجود ، وشملت رحمته كل موجود ، أحمده سبحانه وأشكره
وهو بكل لسان محمود ،

وأشهد أن لا إله إلا الله وحده لا شريك له

الغفور الودود

وعد من أطاعه بالعزة والخلود ، وتوعد منعصاه بالنار ذات الوقود وأشهد أن نبينا محمداً عبد الله ورسوله ،

صاحب المقام المحمود واللواء المعقود ، والحوض المورود

صلى الله عليه وعلى آله

وأصحابه ، الركع السجود ، والتابعين ومن تبعهم من المؤمنين الشهود

DEDICATION

To the fountain of patience and optimism and hope

My dear mother

To the big heart

My dear father

To all whom were reasons of success, by giving us the confidence.

My family members

To the people who paved our way of science and knowledge

All our

Teachers

To the taste of the most beautiful moments with them

My friends

We dedicate this thesis and wish from God obtain acceptance and success.

AKNOWLEDGEMENT

First praise and thanks to ALLAH who inspired us, gave us strength and patience to complete this study successfully.

We extend our deep thanks to our supervisor, MR. Al Sharif Hago for his suggestion, guidance and good supervision.

Special thanks to MR. Mohammed Osman Konna, MR. Ayman Mohammed and MR. Ayman Adam for their help and support.

Special thanks are due to all our friends for their assistance and encouragement.

ABSTRACT

Surveys are considered as an important and effective tool to collect data that need to be analyzed and present results to decision maker in order to help them in decision making, but the difficulty in using those surveys are preventing users from extracting the best benefit.

The aim of this study is to allow corporations to create survey , follow up how their work is going and tracking the employee's performance, also to find out about employees desired and suggestions about developing the corporation. this surveys can be conducted through application in smart phones that allows users to make surveys by any desired form and send surveys. The system received surveys analyze the surveys and conduct results to help in decision making.

After applying the system and use it in (SUST) the researchers obtained results, the most important one is that user can make surveys recording to his/her needs, send them to specific category, analyze them then gain results

The application has been created by android operating system to fit smart phones and to be able to analyze data using enterprise resource planning (Odoo).

المستخلص

تعتبر الإستبيانات وسيلة مهمة وفعالة لجمع البيانات بغرض تحليلها وتقديم نتائج التحليل لمتخذي القرار لمساعدتهم في اتخاذ القرار المناسب ولكن صعوبة التعامل معها تحول دون الإستفادة القصوى من إمكانياتها.

الهدف من هذه الدراسة هو السماح للمؤسسات والشركات بإنشاء إستبيانات لمتابعة سير العمل وأداء الموظفين والإستطلاع عن رغبات ومقترنات الموظفين لتطوير أداء المؤسسة عن طريق تطبيق للهاتف الذكية يسمح المستخدم بإنشاء إستبيانه بأي شكل من الأشكال وإرسال الإستبيان وتحليله وإستخلاص النتائج لمساعدته على اتخاذ القرار المناسب.

بعد تطبيق النظام وتجربته على جامعة السودان للعلوم والتكنولوجيا تم التوصل إلى عدة نتائج أهمها تمكين المستخدم من إنشاء إستبيان بناء على متطلباته وإرسال الإستبيان إلى فئة محددة من الناس وتحليله والإطلاع على تقارير نتائج التحليل.

تم بناء التطبيق بنظام التشغيلأندرويد لملائمته للهواتف الذكية وتحليل البيانات باستخدام نظام تخطيط موارد المؤسسات.

LIST OF TERMS

| TERMS | DESCRIPTIONS |
|---------|---|
| XML | Extensible Markup Language |
| SDK | Software Development Kit |
| WIFI | Wireless Fidelity |
| ERP | Enterprise Resource Planning |
| CRM | Customer Relationship Management |
| TCO | Total Cost of Ownership |
| PDF | Portable Document Format |
| MS | Microsoft |
| SAS | Statistical Analysis System |
| SPSS | Statistical Package for the Social Sciences |
| HR | Human Resources |
| PHP | Hypertext Preprocessor |
| DBMS | Data Base Management System |
| ODBC | Open Database Connectivity |
| IDE | Integrated Development Environment |
| XML-RPC | XML for Remote Procedure Call |
| HTTP | Hyper Text Transfer Protocol |
| IBM | International Business Machines |
| WAMP | Windows Apache MySQL PHP |
| MySQL | My Structured Query Language |
| UML | Unified Modeling Language |
| SQL | Structured Query Language |
| CSV | comma separated values |
| SUST | Sudan University of science and technology |

LIST OF FIGURES

| | |
|---|-------------------------------------|
| Figure [2. 1] Android | Error! Bookmark not defined. |
| Figure [2. 2] Odoo | Error! Bookmark not defined. |
| Figure [2. 3] Example of google forms..... | Error! Bookmark not defined. |
| Figure [2. 4] Electronic Questionnaires..... | Error! Bookmark not defined. |
| Figure [2. 5] Surveymonkey example..... | Error! Bookmark not defined. |
| Figure [2. 6] eSurvey Creator example - create survey | Error! Bookmark not defined. |
| Figure [2. 7] eSurvey Creator example - analyze results.... | Error! Bookmark not defined. |
| | |
| Figure [3. 1] XML-RPC..... | Error! Bookmark not defined. |
| Figure [3. 2] Admin's Use Case Diagram..... | Error! Bookmark not defined. |
| Figure [3. 3] User's Use Case Diagram..... | Error! Bookmark not defined. |
| Figure [3. 4] Activity Diagram..... | Error! Bookmark not defined. |
| Figure [3. 5] User registration sequence diagram | Error! Bookmark not defined. |
| Figure [3. 6] Login sequence diagram..... | Error! Bookmark not defined. |
| Figure [3. 7] create survey sequence diagram..... | Error! Bookmark not defined. |
| Figure [3. 8] send survey sequence diagram..... | Error! Bookmark not defined. |
| Figure [3. 9] receive survey sequence diagram..... | Error! Bookmark not defined. |
| Figure [3. 10] add category sequence diagram | Error! Bookmark not defined. |
| | |
| Figure [4. 1] Welcome screen | Error! Bookmark not defined. |
| Figure [4. 2] Login screen..... | Error! Bookmark not defined. |
| Figure [4. 3] Admin login screen | Error! Bookmark not defined. |
| Figure [4. 4] click create survey button..... | Error! Bookmark not defined. |
| Figure [4. 5] create survey screen..... | Error! Bookmark not defined. |
| Figure [4. 6] Add question screen | Error! Bookmark not defined. |
| Figure [4. 7] select type of answer screen which is short answer | Error! Bookmark not defined. |
| Figure [4. 8] short answer question | Error! Bookmark not defined. |
| Figure [4. 9] select type of answer screen which is long answer | Error! Bookmark not defined. |
| Figure [4. 10] long answer question | Error! Bookmark not defined. |
| Figure [4. 11] select type of answer screen which is single choice answer..... | Error! Bookmark not defined. |
| Figure [4. 12] insert options of single choice answer..... | Error! Bookmark not defined. |
| Figure [4. 13] single choice answer..... | Error! Bookmark not defined. |
| Figure [4. 14] select type of answer screen which is multiple choices answer..... | Error! Bookmark not defined. |
| Figure [4. 15] insert options of multiple choice question ... | Error! Bookmark not defined. |
| Figure [4. 16] multiple choices answer..... | Error! Bookmark not defined. |
| Figure [4. 17] multiple choice answers..... | Error! Bookmark not defined. |
| Figure [4. 18] demo display survey | Error! Bookmark not defined. |
| Figure [4. 19] admin's categories..... | Error! Bookmark not defined. |

| | |
|--|-------------------------------------|
| Figure [4. 20] selected categories | Error! Bookmark not defined. |
| Figure [4. 21] create category | Error! Bookmark not defined. |
| Figure [4. 22] insert category name..... | Error! Bookmark not defined. |
| Figure [4. 23] Created category..... | Error! Bookmark not defined. |
| Figure [4. 24] Users within a category | Error! Bookmark not defined. |
| Figure [4. 25] a side menu..... | Error! Bookmark not defined. |
| Figure [4. 26] refresh screen. | Error! Bookmark not defined. |
| Figure [4. 27] Help screen..... | Error! Bookmark not defined. |
| Figure [4. 28] about screen..... | Error! Bookmark not defined. |
| Figure [4. 29] Share screen | Error! Bookmark not defined. |
| Figure [4. 30] User sign up | Error! Bookmark not defined. |
| Figure [4. 31] User login screen..... | Error! Bookmark not defined. |
| Figure [4. 32] User surveys screen | Error! Bookmark not defined. |
| Figure [4. 33] filled survey screen..... | Error! Bookmark not defined. |
| Figure [4. 34] surveys list after filling | Error! Bookmark not defined. |
| Figure [4. 35] Display surveys in odoo screen..... | Error! Bookmark not defined. |
| Figure [4. 36] Select answers with specific date..... | Error! Bookmark not defined. |
| Figure [4. 37] Number of respondents for each question. | Error! Bookmark not defined. |
| Figure [4. 38] Type of analysis-answers..... | Error! Bookmark not defined. |
| Figure [4. 39] Analysis of questions by “answers” | Error! Bookmark not defined. |
| Figure [4. 40] Type of analysis - answer date | Error! Bookmark not defined. |
| Figure [4. 41] Survey analysis - graph 1 | Error! Bookmark not defined. |
| Figure [4. 42] Survey Analysis - graph 2 | Error! Bookmark not defined. |
| Figure [4. 43] Survey analysis - graph 2..... | Error! Bookmark not defined. |
| Figure [4. 44] Survey title | Error! Bookmark not defined. |
| Figure [4. 45] Survey questions analysis-1 | Error! Bookmark not defined. |
| Figure [4. 46] Survey questions analysis-2 | Error! Bookmark not defined. |
| Figure [4. 47] Survey questions analysis | Error! Bookmark not defined. |
| Figure [5. 1] SUST survey | Error! Bookmark not defined. |
| Figure [5. 2] SUST survey- 2 | Error! Bookmark not defined. |
| Figure [5. 3] SUST Survey-3 | Error! Bookmark not defined. |
| Figure [5. 4] select category..... | Error! Bookmark not defined. |
| Figure [5. 5] SUST analysis- 1 | Error! Bookmark not defined. |
| Figure [5. 6] SUST analysis-2 | Error! Bookmark not defined. |
| Figure [5. 7] SUST analysis -1 | Error! Bookmark not defined. |
| Figure [5. 8] SUST analysis -2 | Error! Bookmark not defined. |
| Figure [5. 9] SUST analysis-3 | Error! Bookmark not defined. |
| Figure [5. 10] SUST analysis-4 | Error! Bookmark not defined. |
| Figure [5. 11] SUST analysis-5 | Error! Bookmark not defined. |

LIST OF TABLES

| Table No | Table description | Page No |
|----------|-------------------|---------|
| [A-1] | UML Notations | 91 |
| [B-1] | UML Relationships | 92 |
| [C-1] | Android Versions | 93 |
| [D-1] | Eclipse Versions | 94 |

TABLE OF CONTENTS

| | |
|---|-------------------------------------|
| 1. INTRODUCTION..... | Error! Bookmark not defined. |
| 1.1. INTRODUCTION:..... | Error! Bookmark not defined. |
| 1.2. PROBLEM STATEMENT:..... | Error! Bookmark not defined. |
| 1.3. RESEARCH QUESTIONS:..... | Error! Bookmark not defined. |
| .1.4 OBJECTIVES: | Error! Bookmark not defined. |
| 1.5. SCOPE:..... | Error! Bookmark not defined. |
| 1.6. RESEARCH STRUCTURE:..... | Error! Bookmark not defined. |
| 2. BACKGROUND AND RELATED STUDIES | Error! Bookmark not defined. |
| 2.1 INTRODUCTION: | Error! Bookmark not defined. |
| 2.2 SYSTEM BACKGROUND:..... | Error! Bookmark not defined. |
| 2.2.1 ANDROID:..... | Error! Bookmark not defined. |
| 2.2.1.1 FEATURES AND PROPERTIES:..... | Error! Bookmark not defined. |
| 2.2.2 OODOO (OPEN ERP):..... | Error! Bookmark not defined. |
| 2.2.2.1 FEATURES AND PROPERTIES:..... | Error! Bookmark not defined. |
| 2.2.3 SURVEYS:..... | Error! Bookmark not defined. |
| 2.2.3.1 WHEN SHOULD YOU USE SURVEYS? : | Error! Bookmark not defined. |
| 2.3 PREVIOUS STUDIES:..... | Error! Bookmark not defined. |
| 2.3.1 GOOGLE FORMS:..... | Error! Bookmark not defined. |
| 2.3.2 SYSTEM FOR ELECTRONIC QUESTIONNAIRES SALES COMPANIES BY RAJA IDRES AND OTHERS IN AUGUST 2014:..... | Error! Bookmark not defined. |
| 2.3.3 SURVEYMONKEY: | Error! Bookmark not defined. |
| 2.3.4 ESURVEY CREATOR:..... | Error! Bookmark not defined. |
| 3. TECHNIQUES USED AND PROPOSED SYSTEM ANALYSIS | Error! Bookmark not defined. |
| 3.1 INTRODUCTION: | Error! Bookmark not defined. |
| 3.2 SYSTEM REQUIREMENT | Error! Bookmark not defined. |
| SPECIFICATION: | Error! Bookmark not defined. |
| 3.3 TECHNIQUES AND TOOLS: | Error! Bookmark not defined. |

| | |
|--|------------------------------|
| 3.3.1 JAVA: | Error! Bookmark not defined. |
| 3.3.2 XML:..... | Error! Bookmark not defined. |
| 3.3.3 PYTHON:..... | Error! Bookmark not defined. |
| 3.3.4 OODOO: | Error! Bookmark not defined. |
| 3.3.5 PHP: | Error! Bookmark not defined. |
| 3.3.6 POSTGRESQL: | Error! Bookmark not defined. |
| 3.3.7 XML-RPC: | Error! Bookmark not defined. |
| 3.3.8 ECLIPSE IDE:..... | Error! Bookmark not defined. |
| 3.3.9 WAMP: | Error! Bookmark not defined. |
| 3.3.10 UML:..... | Error! Bookmark not defined. |
| 3.3.11 ENTERPRISE ARCHITECTURE:..... | Error! Bookmark not defined. |
| 3.3.12 MOZILLA FIREFOX: | Error! Bookmark not defined. |
| 3.4 SYSTEM ANALYSIS: | Error! Bookmark not defined. |
| 3.4.1 USE CASE DIAGRAM: | Error! Bookmark not defined. |
| 3.4.2 ACTIVITY DIAGRAM:..... | Error! Bookmark not defined. |
| 3.4.3 SEQUENCE DIAGRAM: | Error! Bookmark not defined. |
| 4.1 INTODUCTION: | Error! Bookmark not defined. |
| 4.2 HOW THE SYSTEM WORKS: | Error! Bookmark not defined. |
| 4.2.1 ANDROID APPLICATION:..... | Error! Bookmark not defined. |
| 4.2.1.1 WELCOME SCREEN:..... | Error! Bookmark not defined. |
| 4.2.1.2 LOGIN SCREEN:..... | Error! Bookmark not defined. |
| 4.2.1.3 ADMIN LOGIN SCREEN:..... | Error! Bookmark not defined. |
| 4.2.1.4 CREATE SURVEY SCREENS:..... | Error! Bookmark not defined. |
| 4.2.1.5 CREATE CATEGORIES SCREENS:..... | Error! Bookmark not defined. |
| 4.2.1.6 A SIDE MENU SCREENS: | Error! Bookmark not defined. |
| 4.2.1.7 USER REGISTRATION SCREEN: | Error! Bookmark not defined. |
| 4.2.1.8 USER LOGIN SCREEN: | Error! Bookmark not defined. |
| 4.2.1.9 USER SURVEYS SCREEN:..... | Error! Bookmark not defined. |
| 4.2.1.10 FILLED SURVEY SCREEN:..... | Error! Bookmark not defined. |
| 4.2.1.11 SURVEYS LIST AFTER FILLING: | Error! Bookmark not defined. |
| 4.2.2 INTEGRATION BETWEEN ANDROID AND OODOO: . | Error! Bookmark not defined. |
| 4.2.3 OODOO: | Error! Bookmark not defined. |
| 4.2.3.1 ANALYSIS FOR SURVEY AS WHOLE: | Error! Bookmark not defined. |
| 4.2.3.2 ANALYSIS FOR SURVEY EACH QUESTION INDIVIDUALY:Error! | Bookmark |
| not | |
| defined. | |
| 5. RESULTS AND DISCUSS | Error! Bookmark not defined. |

| | |
|--|------------------------------|
| 6. CONCLUSION AND RECOMMENDATIONS | Error! Bookmark not defined. |
| 6.1 CONCLUSION:..... | Error! Bookmark not defined. |
| 6.2 RECOMMENDATIONS:..... | Error! Bookmark not defined. |
| APPENDIXES..... | Error! Bookmark not defined. |
| REFERENCE..... | Error! Bookmark not defined. |