

Final Year Project Report
Eibium Automated Meter Reader



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Dedication

We wish to dedicate this entire project to our parents and respected teachers for their tireless support they accorded to us ever since we were children. We thank them for the spirit of hard work, courage and determination they had instilled in us throughout our school days till today. We also honor and owe our dear sisters and brothers for the happiness and appreciation for the guidance protection and financial support they offered us.

Final Approval

Panel of Examiners

- **Head of Department**
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- **Program Director (Final Year Projects)**
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- **Supervisor**
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- **Co-Supervisor**

Acknowledgment

First and for most, we would like to express our sincere thanks to the Almighty ALLAH for the gift of life, wisdom and understanding he had given to us, a reason for our existence. And to our families for the love and support they had provided throughout our life. Special thanks goes to Miss Tayaba Anjum for initiating the ideas for our project topic hence establishing a framework for the project proposal; she too has been good and understanding. Miss Tayaba Anjum whom we regard as our mentor and supervisor, we thank her for the expertise and intelligence she has displayed while supervising this project. We believe this good work is a result of her good guidance and cooperation. We cannot forget our friends in the Faculty of Computing and Information Technology for academic interactions and company they have accorded to us. Especially our teachers Rao Faizan Ali, Abu baker Siddique, Muhammad Nabeel shall always be remembered as good teachers in a lifetime. Lastly we would like to convey our gratitude to the professors in our Faculty for the good job done during the 3 year period of our course. May the good Lord bless them and keep them safe. We love you all.

Project Title **EAMR (Eibium Automated Meter Reader)**
Objective **Automate the meter reading process.**

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Completion Date **June, 2018**

Tools Used **Java**
 Android Studio
 MySQL Server
 LARAVEL

Operating System **Android**
Documentation

Abstract

Automated Meter reading systems are a significant technological progression that can prompt a superior way of life, inferable from the way that metering has turned into an integral part of our everyday lives. It fathoms numerous issues of the customary meter perusing systems like requirement for HR, productivity, precision, deferred work, inaccessibility of client amid metering visit by representative, and so on. Additionally it is more prudent and spares vitality in a more proficient and compelling way. Besides it has an exceptionally outstanding favorable position of being able to anticipate the vitality requests without bounds, beginning from each family to the whole planet. Automatic meter reading is an Application intended for gathering utilization of energy resources by utilizing Optical Character Recognition innovation, and status information from utility meters (gas) and exchanging information to a focal database for charging. This is an application which will assist you with monitoring your utilization of e.g. gas. You may have investment funds in your financial plan in the event that you track your month to month utilization of gas. The Application is manufactured basically to track the vitality utilization and getting to the sui gas information which can result in better administration. Empowering exact information put away, examined and gave to a client on interest. This Application is utilized in utility meters for gathering the information which is required for billing purposes.

REVISION CHART

Version	Primary Author(s)	Description of Version	Date Completed
Draft	All Members	Initial draft created for distribution and review comments	22-12-2017
Preliminary	All Members	Functional and non-functional requirements, project overview and system attributes	13-01-2018
Revision 1	All Members	Functional and non-functional requirements, project overview and system attributes	01-02-2018
Revision 2	All Members	Revised draft, updating prototypes, models, design and diagrams	28-02-2018
Revision 3	All Members	Revised draft, constraints, development setup, implementation and algorithms	15-04-2018
Revision 4	All Members	Revised draft, code snippets and testing	05-06-2018

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Definitions and Acronyms

Special terms and acronyms used within this document

Table 0.1: table of acronyms and definitions

Acronym	Definition
UMT	University of Management and Technology
EAMR	Eibium Automated Meter Reader
RP	Roshan Pakistan
MMR	Manual Meter Reading
OCR	Optical Character Recognition

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1. INTRODUCTION

Automatic Meter Reading (AMR) Application is designed for home user and meter readers to check the meter reading using android phone camera to obtain efficiently and accurately reading of the analog/digital meter. The Application is to control the information of users and meter reader and users can estimate their bill. These services are to be given in a proficient, cost effective and practical way, with the objective of decreasing the time and assets at present required for such errands.

1.1 Motivations

It is not unusual that consumers in Pakistan have been receiving exorbitantly high bills and consumers complain about the errors in bills. And our interest in this field has made us think about helping people and trying to ease the process of billing and providing monitoring tools to user to minimize the errors in reading meters.