

TABLE OF CONTENTS

APPROVAL SHEET	ii
ORIGINAL STATEMENT SHEET	iii
ABSTRACT	iv
PREFACE	vi
PRESENTATION SHEET	vii
TABLE OF CONTENTS	1
LIST OF FIGURES	5
LIST OF TABLES	7
LIST OF APPENDIX	9
LIST OF TERMS	10
Chapter I INTRODUCTION	12
I.1 Background	12
I.2 Problem statement	15
I.3 Research objectives	15
I.4 Research scopes	16
I.5 Research Benefits	16
Chapter II LITERATURE REVIEW	17
II.1 Smart City	17
II.2 Smart Village	18
II.3 Enterprise Architecture	19
II.4 Enterprise Architecture Framework Comparison	19
II.5 TOGAF	21
II.6 Previous Research	26
Chapter III METHODS	31
III.1 Conceptual Model Development	31

III.2	Systematics of problem solving.....	32
III.3	The Reason for Selecting Methods.....	35
III.4	Data Collection.....	35
III.5	Development Process Artifact.....	35
III.6	Evaluation Method	37
Chapter IV	PREPARATION AND IDENTIFICATION.....	39
IV.1	Identification of Data Needs.....	39
IV.2	Description of Research Object.....	41
IV.2.1	Sumur Bandung Sub District Profile.....	41
IV.2.2	Vision and Mission	42
IV.2.3	Organization Structure	43
IV.2.4	Details of Duties and Functions	43
IV.3	Sumur Bandung Sub-District Goals, Objective and Strategy	51
IV.4	Overview of Problems in Sumur Bandung District.....	53
Chapter V	ANALYSIS AND PLANNING.....	58
V.1	Preliminary Phase.....	58
V.1.1	Principle Catalog.....	58
V.2	Architecture Vision	60
V.2.1	Stakeholder Map Matrix	60
V.2.2	Value Chain.....	61
V.2.3	Solution Concept Diagram.....	62
V.3	Business Architecture.....	63
V.3.1	Business Architecture Requirement.....	63
V.3.2	Business Footprint Diagram.....	64
V.3.3	Goal/objective/requirement catalog	64
V.3.1	Business Interaction Matrix	67

V.3.1	Functional Decomposition Diagram	67
V.3.1	Business Service/ Function Catalog.....	70
V.3.2	Organizational/ Actor Catalog	71
V.3.1	Role Catalog.....	72
V.3.1	Actor/Role Matrix	76
V.3.2	Process Flow Diagram	78
V.3.3	Business Architecture Target.....	84
V.3.4	Gap Analysis Business Architecture.....	89
V.4	Information System Architecture	90
V.4.1	Data Architecture Requirement.....	91
V.4.1.1	Data Entity/Data Component Catalog	91
V.4.1.2	Data Entity/Business Function Matrix.....	93
V.4.1.3	Application/ Data Matrix	95
V.4.1.4	Conceptual Data Diagram.....	96
V.4.1.5	Logical Data Diagram.....	97
V.4.1.6	Data Dissemination Diagram	100
V.4.1.7	Gap Analysis Data Architecture	100
V.4.2	Application Architecture Requirement	102
V.4.2.1	Application Portofolio Catalog.....	102
V.4.2.2	Application/ Organization Matrix.....	104
V.4.2.3	Application / Function Matrix	104
V.4.2.4	Application / Interaction Matrix	105
V.4.2.5	Application Communication Diagram.....	106
V.4.2.6	Application Use Case Diagram.....	107
V.4.2.7	GAP Analysis Application Architecture.....	109
V.5	Technology Architecture	111

V.5.1	Technology Architecture Requirement	111
V.5.2	Technology Standard Catalog	112
V.5.3	Technology Portofolio Catalog	113
V.5.4	Application/ Technology Matrix	115
V.5.5	Environment and Location Diagram	116
V.5.6	Platform Decomposition Diagram	116
V.5.7	GAP Analysis Technology Architecture	117
V.6	Opportunities and Solution	118
V.6.1	Implementation Factor Assessment and Deduction	119
V.6.2	Project Context Diagram	123
V.6.3	Benefit Diagram	123
V.7	Migration Planning	124
V.7.1	Estimate Value and Risk	124
V.7.2	Business Value Assessment	126
V.7.3	Project Development Priorities	127
V.7.4	IT Roadmap	128
Chapter VI	CONCLUSIONS AND RECOMMENDATIONS	129
VI.1	Conclusions	129
VI.2	Recommendations	130
REFERENCES	.....	131
APPENDIX	.....	134
APPENDIX 1	.....	134
APPENDIX 2	.....	135
APPENDIX 3	.....	144