An Innovative Farm Management System

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Abstract- *The Farm Management System will lead to a secure, reliable and quick system of management that is error free. Instead of concentrating on record keeping, it will allow the consumer to focus on their other operations. This would thus allow organizations to make better use of resources. Without duplicate entries, the organization may maintain computerized records. This means that one does not need to be distracted by information that is not important when being able to access the data. The management of agricultural production is entering a new period. Farmers with large farms are struggling to maintain track of and crop, pesticides, etc. manually and find it difficult to share with others. The Farm Management System project allows farmers to keep and edit farm records. The project is being built on the basis of the current problem of the farm owner to keep and retrieve information on crops, pesticides, employee data, storage. This web system helps to hold the data in one location that the owner of the farm adds and shows as per the owner's request. The Farm Management System is created as an attempt to document the existence of crops, chemicals, employees and stocks in the warehouse. It is also simple for the owner to provide workers with the correct definition of the crops and the right amount of pesticides used in the crop for the maximum efficiency.*

Keywords- Sorting, complexity lists, comparisons, movement sorting algorithms, methods, stable,unstable, internal sorting

I. INTRODUCTION

The goal of the Farm Management System is to mechanize the current manual structure with the help of electronic gear types and undeniable PC programming, meeting their prerequi- sites, so that their important information/data can be put away for a longer period of time with easy access to and control of the equivalent. Effectively available and easy to work with are the requisite programming and equipment. As shown above, the Farm Management System will prompt error-free, stable, solid and rapid administration structure. Rather than concentrating on record keeping, it will encourage the client to concentrate on their various exercises. It will also assist as- sociations in making better use of properties. Without repeated passages, the association may retain automated records. That means that data that is not important need not be redirected while having the option to arrive at the data. The point is to mechanize its current manual system with the help of automated supplies and undeniable PC programming, fulfilling their prerequisites, so that their essential information/data can be put away with easy access to and control of the equivalent for a more drawn out time. The job basically shows how to supervise clients for effective implementation and better management.

II. RELATEDWORK

Farm management deals with the organisation and activity of a farm with the goal of making a living while dealing with foreign trade, traceability and customer requirements, agri- cultural policies, environmental requirements and the multi- functionality of the agricultural enterprise as a whole. The Farm Management Information System (FMIS) is a system for the collection, processing, storage and distribution of data in the form of information required for the performance of the farm's operational functions (Salami and Ahmadi, 2010). These roles include strategic, tactical and organizational prepa- ration, execution and reporting, evaluation and optimization of the field or farm work carried out. Different management systems, database network models and software architectures have been proposed to serve these roles in order to improve the execution of these functions (Beck, 2001; Nikkila et al., 2010; S0rensen et al., 2010). The IMFS has also begun to be "cou- pled" mainly with some agricultural equipment (e.g. actuators) to allow automatic decision-making, if desired by the farm- ers. Currently, IMFS provides significant services, but their capabilities can be significantly improved. The widespread adaptation and utilization of all potentials of current infor- mation management systems for farms is hampered by some issues. Current systems are proprietary solutions, most of which provide their own specification of the features they offer and the means to communicate with external services. For this reason, there is little consistency and utter openness in technology and communication within the food supply chain of agriculture. Existing and future systems generally operate under a specific business model (Teye, 2011; S0rensen et al., 2010). Their main objective is to provide or collect information from farmers, process it and provide a variety of services. These programs are typically incorporated into the system or are more rarely delivered by other service providers. These service providers which include government depart-

ments, mete-urological services, consulting services (agriculture- turists, veterinarians), spraying contractors and even logistics services, distributors and end-users. However, as stated in (S0rensen et al., 2010).” . farmers report significant problems in using current agricultural information management systems, and particularly in trans furring information between systems... ” The solution would be to create a centralized network where all services could be incorporated. The obvious problem is that even if one tries to follow this roach3 app even on a very small number of such platforms per region, it is not feasible to incorporate all services from all global market stakeholders. While there will be few government departments and meteorological services to register on such a platform, we expect that software developers for specialized services, consultants, suppliers, distributors and more importantly, end- users, etc., will be present in large numbers and it is not reasonable to expect that they will be served by single platform providers (Wolfert et al., 2010). Thus, we need to enable users and application providers who can belong to different FMISs to cooperate. The aim is to provide universal marketplaces for future systems.

III. IMPLEMENTEDMETHOD

The model view controller is usually referred to as a software design pattern for the production of A model view controller pattern for web applications is composed of three parts: • Model - The lowest level of the pattern responsible for data preservation.

- View - This is responsible for showing the user all or a portion of the results.
- Controller- Software that governs the interactions between the model and the model.

MVC is common because it isolates application logic from the user interface layer and supports it. The controller will receive all requests for a submission, and then It was with The Model to prepare any data required by The View. Then the view uses the data compiled by the controller to produce a final presentable response.

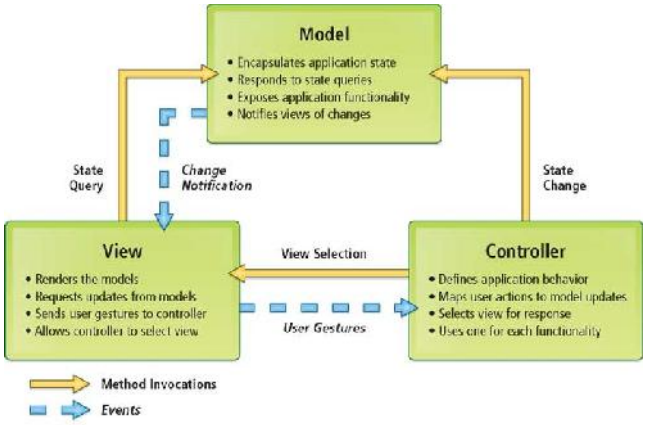

Fig.1.Model view controller

IV. IDENTIFICATION OF NEED

There were a number of disadvantages to the old manual system. The procedure of keeping, maintaining and retrieving the information was exceedingly arduous and lengthy because the entire system should be managed with hands. The records were never systematically ordered. In connection with every given transaction, there have been many complications. If any information were found to pass via the various registers, papers such as report generation would never exist. When entering documents and retrieving records, time will always be unneeded. Another concern was that when entering the records, it was quite difficult to discover inaccuracies. It was quite difficult to amend these records once the records were entered.

It is due to the fact that there is a great deal of information to be kept in mind throughout commercial operations.

We have offered features for this reason. The current method is largely automated (computer-based), the current method is rather difficult because the same information needs to be entered at three separate locations.

There should be consideration of the following points:

- Documents and reports that need a new system to be submitted: few reports may also be published to support decision-making management and cost controls, but because such reports receive no attention, such reports and information have also been identified and taken into account.
- Details of each document and report's necessary information.

For each document, the needed frequency and distribution.

- Probable information sources for every document and report.
- The challenge of keeping records in an organized manner is solved by the adoption of a computerized system. The most important thing is to find information at the mouse click. Thus the method presented helps to save time in many activities and make it simple for vital reports to flow information.

V. LIMITATIONANDFUTURESCOPE

In spite of the fact that I have invested my best amounts of energy to make the product adaptable, simple to work however restrictions can't be precluded even by me. In spite of the fact that the product presents a wide scope of alternatives to its clients some multifaceted choices couldn't be covered into it; halfway as a result of calculated and incompletely because of absence of refinement. Scarcity of time was additionally significant requirement; accordingly it was impractical to make the product secure and dynamic. Absence of time likewise constrained me to disregard some part, for example, putting away old aftereffect of the competitor and so forth Impressive endeavors have made the product simple to work in any event, for the individuals not identified with the field of PCs however it is recognized that a layman may think that its somewhat risky at the principal case. The client is given assistance at each progression to his benefit in working with the product. Rundown of restrictions which are accessible in the Farm Management System: • Excel send out has not been produced for Farm, Crops because of some criticality. • The exchanges are executed in disconnected mode, subsequently on-line information for Crops, Insecticides catch and change is preposterous. • Off-line reports of Farm, Pesticides, and Crops can't be produced because of cluster mode execution.

More or less, it very well may be summed up that the future extent of the venture hovers around keeping up data with respect to: • We can add printer in future. • We can give more propel programming for Farm Management System including more offices • We will have the stage on online workers to make it open overall • Integrate numerous heap balancers to circulate the heaps of the framework • Create the expert and slave information base structure to decrease the over-burden of the data set questions • Implement the reinforcement com- potent for taking reinforcement of codebase and data set on normal premise on various workers The previously mentioned focuses are the improvements which should be possible to build the pertinence and use of this venture. Here we can keep up the records of Farm and Crops. Additionally, as it tends to be seen that now-a-days the players are flexible, for example so there is a degree for acquainting a technique with keep up the Farm Management System. Improvements should be possible to keep up all the Farm, Crops, Crops, Insecticides, and Pesticides. We have left all the alternatives open so that if there is some other future prerequisite in the framework by the client for the improvement of the framework then it is conceivable to actualize them. In the last we might want to thanks all the people associated with the advancement of the framework straightforwardly or by implication. We trust that the venture will fill its need for which it is create there by underlining achievement of cycle.

VI. FEASIBILITY STUDY

The next duty is to carry out the feasibility study for the project after the development of the farm management system, the analysis of all the existing or necessary features of the system. Every endeavor is feasible - given unlimited resources and endless time.

The feasibility analysis takes account of every feasible way in which the problem can be solved. The solution proposed should meet all user requirements and must be sufficiently adaptable to make future changes simply possible based on future requirements.

A. Economic Feasibility

In the development of a project, this is a very significant feature. We chose the technology based on the feasible least cost factor.

• The organization shall bear all hardware and software costs.
• We projected overall that the benefits of the proposed system will undoubtedly outweigh initial costs for the organization, and eventual operational costs for the system.

B. Technical Feasibility

This involved the examination of function, performance and limitations which can influence the capacity to reach an acceptable system. We evaluated comprehensive system feasibility as defined in the System Requirement Specification (SRS) for these feasibility studies and we exempted whether everything was doable with various types of front-end and back-end platform.

C. Operational Feasibility

The suggested system has totally user free GUI and all inputs are automatically explained to a layperson, even if they are exceedingly user-friendly. In addition, comprehensive

training was carried out to make the users realise the essential and convenience of the system. With regard to our work, customers are pleased and satisfied with the system's load reduction.

VII. INTRODUCTION ABOUT RDBMS

An RBMS system is a database management system based on an E.F. Codd, IBM's San Jose Research Laboratory relation model. RBMS is the RBMS system. The relational database model is based on many major currently in use databases.

In the new databases used for financial data records, manufacturing and logistical data, personnel information and much more as the 1980s, RDBMS have become the prevailing option to store data. Inherent hierarchical databases and networking databases have been replaced in relation databases since they are easier to understand and utilise. Relational databases were nonetheless challenged by object databases, which were established to address the impedance of the object in the relational database and XML databases.

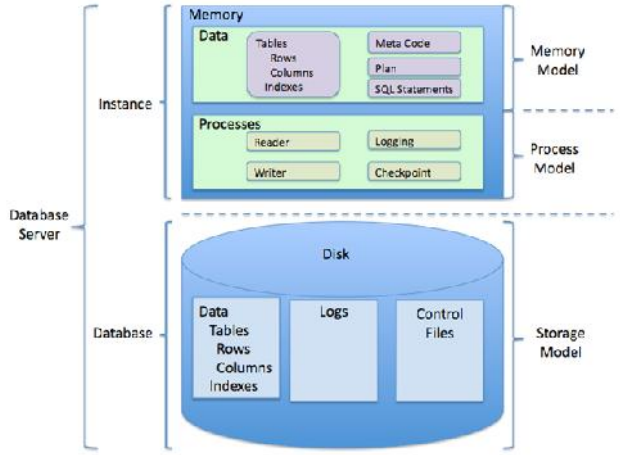

Fig.2.RDBMS

VIII. COST ESTIMATION

A minor proportion of computer-based system cost includes software costs. A variety of factors, such as the availability of human, technical, hardware and software, etc. can influence the cost of software.

During the cost estimate, the major aspect was the size of the project. Despite software sizing, each Software piece has been used to 'size' and its cost, with its function point and estimate code lines.

The cost estimate I have provided for my project also depends on the baselines acquired from earlier projects and these have been utilised to produce cost and effort predictions together with estimate factors.

We estimated this project essentially on two bases –

1) Effort Estimate - refers to the total man-hours necessary for the project's development. The paperwork and the user manual even take time.
2) Hardware Estimates Required – This comprises the cost of PCs and the hardware costs necessary for the project's development.

IX. PROJECT PROFILE

Continuous efforts have been made to build tools that ease the software development process. But currently software engineers are really challenged to deal with technology change by the rising trend of many programming paradigms. In the software development industry the re-engineering of software is also seen as a significant activity. One of the main challenges in this context is to understand the already built software systems and transform them into another software environment. This usually needs a lot of manual effort to undertake a programmer that another programmer has written. This project is a new attempt to address the result of the analysis of programmers and the production of diagrams that can better represent a program's structure. UML is nowadays regarded as an industrial standard in the design of software. It is important to provide several graphic instruments that can express distinct parts of the software, for example

Use cases: Users in meaningful pieces eligible criterion. Building planning is designed to provide certain usage cases for each system test.

Class diagrams: displays the static concept, type and class hierarchy. Concepts the world of users; the type displays software component interfaces; the classes indicate software component implementation.

Interaction Diagrams: depicts the collaboration of numerous items in a single example.
Activity Diagram: demonstrates control structure behavior. It can display numerous objects throughout multiple uses, encouraging parallel activity in numerous single case objects or implementing methods etc.

The aim is to analyze any vb.net application and to explore many of its object-oriented characteristics such as

polymorphism, inheritance, encapsulation and abstraction. This project offers you the possibility for an integrated project.

X. MODULELS OF FMS

• Module for farm management: used to manage the specifics of the farm.• Module of pesticides: used to manage pesticide details • Module cost range: used to manage the cost range details• Module of Crop Management: used to manage crop data and details.• Module of crops: used for crop data management• Module for insecticides: used for information management• Login Module: used to manage login information• User Module: Used for system user management.

REPORTS for FMS:

• The report on farm, crops and range of costs is generated
• Providing crop, insecticides and pesticide filtration reports
• PDF for farm, costs, insecticides can be exported quickly,
• Excellence export for crops, plants and pesticides also included.
• You can export the report for farming, crops, pesticides in the CSV format.

XI. UML DIAGRAMS

UML is the successor of the wave of Object-oriented Analysis and Design (OOA&D) approaches which came into being in the late 1980s. Booch, Rumbaugh(OMT) and Jacobson's techniques are most directly unified. UML is known as a language of modelling, not a method. The majority of approaches consist of both a modelling language and a process, at least in principle. The notation used to express design is the Modeling Language.

A) CLASS DIAGRAM:

Within object-oriented approaches the class diagram technology has become truly central. Almost every method contained a variation on this technique. Also the class diagram is subject to a wide range of models. Although everybody needs the basic principles, higher notions are less frequently used. A class diagram depicts the categories of objects in the system and the different forms of static connections between them. Two main types of static relationship exist:

• Subtype • Association • the class diagram also shows the attributes and activities of a class and the limitations of the connection between objects.

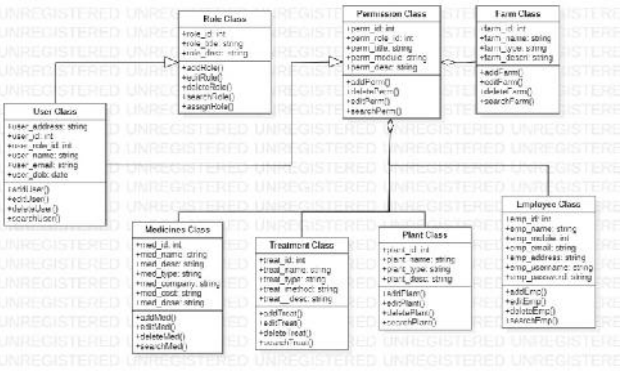

Fig.3. CLASS Diagram for FMS

B) USECASE Model:

Any system's case model consists of "use cases." Use cases are different methods for the user to use the system. A straightforward technique to determine the whole system's application is to ask "What the user is able to do with the system?" When the system activity is partitioned into transactions, each transaction carries out certain useful action from the user perspective.

The objective of the application case is to define a cohesive behavior without revealing the system's fundamental structure. A sequence of interaction between the user and the system is often a case of application. These interactions consist of a main line sequence that represents the user-system interaction. An essential analytical and design artifact is the case model of use (task). Draw a diagram of the case for use and write a document to complement the diagram.

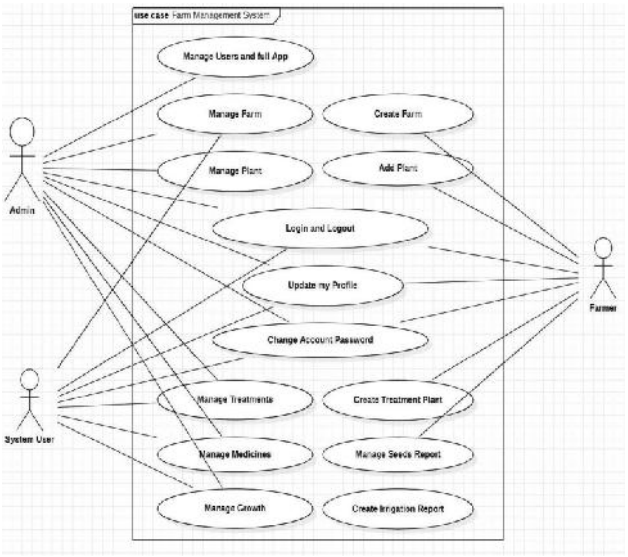

Fig.4.USE CASE Diagram for FMS

C) DFD Diagram:

The data flow diagram is the beginning of the design phase, which decomposes the specification of needs. A DFD is composed of a number of lines connected together by bubbles. The bubbles reflect the transformation of data while lines reflect the system's data flows. A DFD explains what flow of data instead of how it is handled, such that the hardware, software and data structure does not work.

A data-flow diagram (DFD) represents the "flow" of data through an information system graphically. DFDs can also be utilised for data processing visualisation (structured design). An important modelling method for evaluating and constructing information processes is the data flow diagram (DFD). DFD is a photograph which actually explains the progress or movement of data. DFD demonstrates this data flow in an input- and output-based process. A process model can be called a DFD.

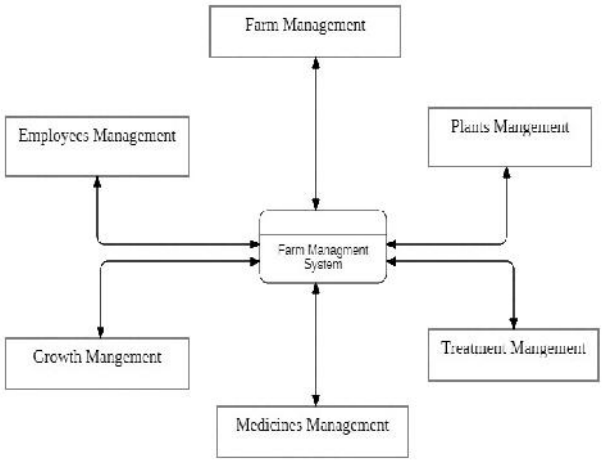

Fig.5.Zero Level DFD Diagram for FMS

This is the DFD zero-level system for agricultural management, which has been used by us for high-level farming. It is a fundamental overview of the entire Farm Management system or its analysis or modeling process. The project is supposed to be an overview of growth, employees and login, which demonstrates the system's interaction to outside farm organizations, plants and treatments as a single high-level process. A broad public, including farming, treatments and growth, should understand it readily We have detailed the high level flow of the farm system in null-level DFD of the farm management system.

D) Entity-Relationship Diagram:

This diagram ER (Entity Relationship) shows the Farm Management System Entity model. The Farm Management System entity diagram shows complete visual instrument of the database tables and plant, medicinal products, farms, login and more relationships. The structural data was employed and the links between structured Farm Management System functionality data groupings were defined. Farm, plants, treatments, medicines, employees and the Login are the major entities of the farm management system.

Entities and properties of farm management systems

- Entity Farm FarmThe farm attributes are farm id, agricultural name, farm type, agricultural description
- Plant Entity: Plant Id attributes, plant name, plant type, plant description attributes. The attributes for treatments include treatment id, treatment name, technique of therapy, kind of treatment, treatment description. Treatments Entity Entity of Medicines The medicine's attributes include medicinal id, medicinal name, medicinal products, medicinal products, medicinal products, medicine type, drug dose and medicinal products. Employee Entity Employee characteristics are employee id, employee name, employee mobile, employee email, employee username. Login Entity The login id, login user id, login role id, login username, login paid login, login paid login, login password,

Farm management system database description:

- The farm details are stored in the farm tables with all tables respectively
- Every entity (login, therapies. The main key and the unique keys are included by staff, facilities, farm).

Treatments for the entity. Employees are bound to Farm, plant companies of international importance

- Employees, medicines, logins, farm linkages are single to one and multiple. Farming all entities, staff. Treatments, login and duplication of records are normalized

We have indexed for quick query execution on every table of Farm Management System tables.

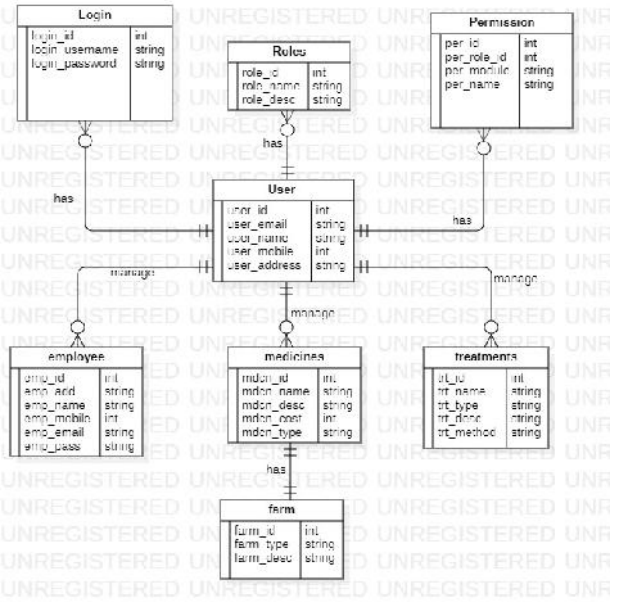

Fig.6.ER Diagram for FMS

XII. SYSTEM ANALYSIS

System analysis is a combination of obtaining data, diagnosing problems, and acquiring knowledge about the Farm Management System to provide solutions to the problems. The work involves teamwork on the part of both system users and system developers. The process of system development goes through several stages and a critical step is system analysis or study. The system is scrutinized from every angle and examined in excruciating detail. In this system analysis position, the analyst has the function of an interrogator and immerses themselves in the day-to-day workings of the current system. In this example, the input to the system is perceived as a whole. For every input that an organization provides, outputs are linked to numerous processes. A thorough analysis should aim to bring the organization to a point where it is aware of the problem, which variables are relevant, how various elements interact, and how to design an effective solution or programmer of action. An in-depth investigation must include interviews, questionnaires, and surveys. Data must be evaluated and analyzed in order to reach a conclusion. Once you grasp how the system works, you've got the answer. This system is commonly referred to as the current system. The current system is now being thoroughly examined and trouble areas are pinpointed. It is now the designer's job to be a problem solver, and they do this by solving the issues faced by the business. The proposed solutions are presented. Then, the suggestion is analyzed and the most favorable system is picked. A proposal is provided to the user, and the user is asked to give it his or her stamp of approval. Changes requested by users are implemented. Once the user is happy with a proposal, this loop terminates. The process of collecting and interpreting facts in the first investigation called preliminary research. A preliminary research is a process that uses communication and problem resolution to achieve more comprehensive results. It conducts feasibility assessments on a range of topics. In these studies, a rough estimate of the system activities can be obtained, and this information is utilised to guide the decisions regarding the many tactics that are used to conduct successful system analysis and study.

XIII. CONCLUSION

Our project is only a modest endeavor to fulfill the needs of handling their project work. Some user-friendly coding has also been adopted. This package will prove to be a powerful package to meet all of the school's requirements. The objective of software planning is to provide a framework work that enables the Manger to make reasonable estimates within a limited timeframe at the start of the software project and should be updated regularly as the project progresses. A description of the background and context of the project and its relation to work already done in the area. Declaration of the objectives and objectives of the project. The purpose, scope, and applicability description. We define the problem that we are working on in the project. We define the requirements Specifications of the system and the steps that can be taken to resolve these issues. We understand the problem domain and generate a system model that defines the operations that can be performed on the system. We also provided features and operations in detail, including screen layouts. We built user interface and system-related security concerns.

XIV. ACKNOWLEDGMENT

I would like to extend my sincere duty to all those who have supported me along the way in this effort. Without their active support, constant guidance and motivation, I would not have made any progress in the project.

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