SWE20001: Managing Software Projects

Team name: Team Apple

Member:

•Pasan Sanjula Senanayake (103128866),

•S M Ragib Rezwan (103172423),

•Fadal Arhab Farouk (102421195),

•Mithila Minara (103128691),

•Virul Vinwath (102625159)

•Anuradha Isurindu (102423308)

Tutor: Naveed Ali | 12.30pm Tuesday | EN310

Project Proposal[1] : *GotoGro*

Background / Problem Description

This project is to develop a software to, GotoGro (from further onwards mentioned as client), in order to help them store and manage member records and sales records which bases its business activities at Hawthorn where they fulfil grocery needs to their customers on a member basis. After further analysis we have identified the following problem in the current implementation.

- *Inefficiency of activities due the use of paper-based system*
- *Less accuracy and consistency in analysing member's grocery needs*
- *Failing to maintain proper order and reorder system*

The proposed software will allow the client to store and manage member records and sales records by reducing paper-based system saving costly overhead. It will also allow the client to keep a consistency and accuracy of the records higher, compared to the current system. This software will be user friendly in manner that current staff will be able to adopt the new system with little or no training provided which will be economical to the client.

Scope

The MRM software will be like the holding the data from customers to the sale records which are similar to the current paper-based system but with relevant relationship so that each relevant records from multiple tables can be accessed.

The MRM software will allow the client to store, maintain and management records easily using the graphical user interface provided which is user friendly as mentioned above and will reduces the training time needed when implementing the system in client's corporate environment.

[1] This document is by no means a "full project proposal". It has been simplified and customized for the purposes of SWE20001 teaching. The full project proposal includes many other sections which have not been discussed during the first few weeks of SWE20001 teaching.

With the given software, GotoGro can analyse the needs of their customers and place the orders accordingly. The reports will be exported in CSV (comma separated values) format for further processing as requested.

Stakeholders

- ***Owner:* Owners are interested in this system as it adds value to their business**
- ***Employees: Employees are interest as the business environment will be improved***
- ***Customers: Customers are interested as the business processes will be improved and the services provided will improved***
- ***Suppliers: suppliers will be interested as the order and reorder will be consistent***
- ***Team Apple***

Deliverables and schedule

Deliverables

With the new MRM software, user manual for operations and troubleshooting will be provided containing all the necessary steps for each scenario and technical details for troubleshooting purposes. When implanting the system in the business environment, a training session will be provided for employees covering both internal services and customer end services which can be passed to customers through client's employee base.

Initial Release Schedule of the Product backlog items

No.	Item	Dependencies	Business Value (1 least – 10 most)	Release Schedule (Sprint 1 | 2 | 3 | …)
F1	Add a new member		7	Sprint 1
F2	Add item		7	Sprint 1
F3	Edit/ Manage item	F2	8	Sprint 1
F4	Add a sales record	F1, F2	8	Sprint 2
F5	Edit a sales record	F4	8	Sprint 2
F6	Edit/ Manage Member	F1	7	Sprint 2
F7	Sales queries based on time stamps and members	member's record and that member's sales records	9	Sprint 2

Solution Direction

Our proposal for GotoGro is to have a desktop application rather than a web-based application as the business environment is currently small and having web-based application carries more overhead compared to a desktop application. But in future development, the databases can be easily migrated to web-based application as our current proposal prose to use MySQL which will be easy to migrate and integrate in web-based systems.

Furthermore, it will also reduce security risk as it won't be running on any network other than their local one and thus no chance of being attacked remotely by malware or hacker. Also, it will have the advantage of easy maintenance and backup as everything is local and so will not suffer in terms of duplication and discrepancy of data (which is a common issue in systems exposed to remote access).

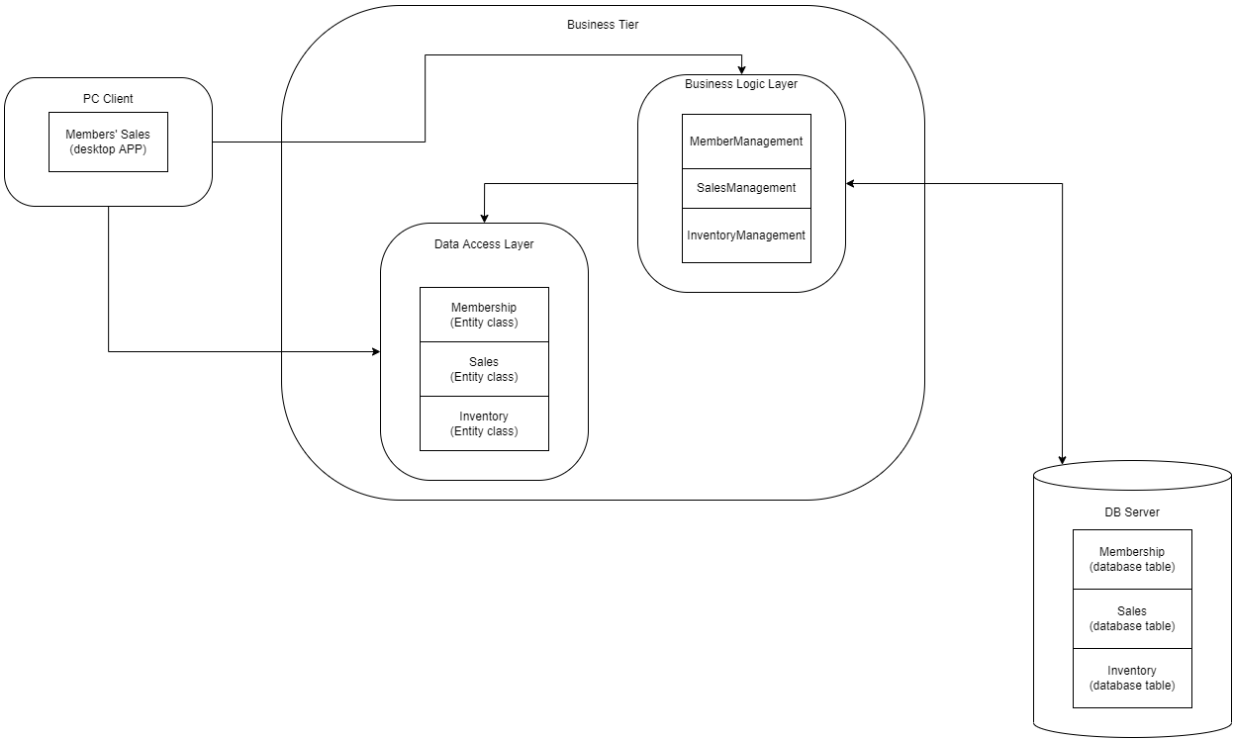
Last but not the least, it will also be cheaper and faster to develop such a system, when compared to making a web based application, which in turn will ensure less loss of time and resources for the company wanting the software.

The KoST of this application is the following:

Knowledge:

- **Problem domain:** Grocery shops, business operations, membership, IT software, warehouse stock, data
- **Solution domain:** record management, sales recording, inventory control, data analysis, trend analysis, membership management, secure viewing for company
- **Skills:** C# programming, use of mysql db server.
- **Technology:** Desktop based application with .Net framework

When considering option, there are many of the shelves' options available but with higher costs and overheads which is not suitable even when some of them are subscription based. Also, it is worth mentioning that when considering your requirements having a tailor-made software will help you to future proof your business system and enables to improve or migrate to new systems in future easily and efficiently if needed.



The PC client is the view that will be seen by the user. It will need relay the instruction/ commands given to it by the user, to the backend, which will in turn pass the commands to their relevant classes and start processing the given instruction. After processing these entities will then pass on the command to the db server which will make the change to the individual table's data if required.

At the same time, the software will also update the membership, sales and inventory management data stored in the business logic layer, which it will display back to the pc client through itself.

Quality Management

When considering GotoGro-MRM, quality is important as the this will directly affect the main business functions of the business including customer satisfaction and primary business operations. GotoGro currently operates a paper-based system and having a software-based system is important to keep the service running efficiently and effectively. In order to achieve this outcome, the software system must have specific qualities such as high availability, reliable functionalities and etc. The software should also provide reliable services and availability must be high. The design and coding must follow well known standards and the testing phase should follow a specific set of standards and procedures which are designed for this specific software. Along with that debug can

be automated using NUnit Testing in order to preserve the consistency in testing phase for each item from the product backlog.

For maintaining quality within this project, following guidelines from ISO 25010 is followed.

- Functional suitability: (Functional Completeness). To achieve completeness, the set of functions specified in backlog features (new member, add item, edit/manage item, add sales record, edit/manage sales record, edit/manage member and sales queries based on time stamps and members) should be more than 95% completed and total number of errors per KLOC <=5.

- Performance efficiency: (Time Behaviour) The response time for error message/ acceptance message for the employee when checking the "Add New User" functionality should take less than 5 seconds to load, once the software has been fully developed and deployed

- Performance efficiency: (Resource Utilization) The amount of memory taken by the backlog features (the GUI aspect, adding and updating members, updating sales record and all other functionality in the sprint backlog for the entire project) should not exceed 10mb for at least 90% of the features.

- Usability: (User Interface Aesthetics) The software's menu interface for accessing the "add user", "modify user", "sales record for user", etc (present in sprint 1 backlog) should be simple or self-explanatory enough for the users to easily understand and use (without any further training for it). Let the user, product owner and system testers test the system. If the overall satisfaction of the users demonstrated is more than 90 % then the user interface has been achieved.

- Usability: (User Error Protection) If the failed user operation for the system (ie either a failed input for any of the functionality, like "add members", "update members", etc, or a cancelled operation) is noted to be less than 5% by the time it has been deployed, the software can be thought to have fulfilled the User Error Protection

- Security: (Confidentiality) The System is protected by username and password pair and only authenticated user can access it after waiting less than 5 seconds (for login time). This can be tested by using a set of username and password pairs and seeing whether more than 95% of the username and password pair can gain access to the system, within 5 seconds of login time.

Resources

Team Roles

Name	***Role***
Pasan	*Team Leader, Programmer*
Ragib	*Moderator, Assistant programmer*
Fadal Arhab Farouk	*Presenter, Assistant Moderator*
Mithila Minara	*Scrum Master*
Virul Vinwath	*Scribe*
Anuradha Isurindu	*Supervisor Liaison*

Approval Signatures:

Project Team

	Name of student	Student Id	Signature
1	Pasan Sanjula Senanayake	103128866	PASAN
2	S M Ragib Rezwan	103172423	RAGIB
3	Fadal Arhab Farouk	102421195	FADAL
4	Mithila Minara	103128691	MITHILA
5	Virul Vinwath	102625159	VIRUL
6	Anuradha Isurindu	102423308	ANURADHA

Project Sponsor : Naveed Ali

Tutor's name (on behalf of the client)	Signature: