Project Proposal

Online Food Order Processing System for Little Rose Restaurant

Submitted By:

D.A.K.Harijith

SEU/IS/13/MIT/006

MIT 0480

Department of Management and Information Technology

Faculty of Management and Commerce

South Eastern University of Sri Lanka

Oluvil-Ampara

2017

TABLE OF CONTENTS

1. INTRODUCTION

1.1. Background

The proposal will be started with the exploration on the client organization. First, this will concentrate on the introduction, background and problem statement. After that, this will discuss about the objectives of the proposed system with measurable outcomes. And also scope and limitations of the proposed system and system development methods and methodology and brief description of the software, hardware specification to develop the proposed system will be discussed. After that estimated budget also mentioned. Then organization/ time schedule of the system development, breakdown of tasks and durations, Gantt chart with work schedule, timeline and work calendar and finally the references also mentioned.

Within the problem statement, the proposed system is consisted of how to provide real features and user expected services. The existing function has relented, currently used system process on organization and daily process of organization. Problem identification concept provides identification of disadvantage on selected organization. The objectives of the proposed system with measurable outcomes have included kept and provided quality and feasibility to expect business process and information.

System development methods and methodology is expected of why chosen system development method and methodology selected for proposed system and generation on developed time-period. The hardware, software and graphic design technology are used from brief description of the software, hardware specification to develop the proposed system. Budget shows the estimated budget require for the project. Time management of the proposed project is expecting time management and reduce time wasting.

- Business Name : Little Rose restaurant
- Business Address : No.265, Enderamulla, Wattala
- Contact No : 011 2930684
- Fax No. : +94 25054619
- Established In : 1990 Feb. 20th
- No. Of Employees : 12

1.2. Problem Statement

The Little Rose restaurant needs to become more competitive and become more profitable. Because, in Ragama area there are lots of quality, restaurants are available and their market share is also high. The Little Rose restaurant is having a manual food order process as a tool of gain more competitiveness. With that can earn new customers and can satisfy the current customers in a fantastic way.

However, the existing process of the food order process is economically, technologically less effective and less efficient. By keeping system, documentation manually is hard to generate reports. As the amount of data collected regarding a particular day-to-day business process increase, it becomes more difficult to provide a meaningful analysis of all the data. It is difficult to identify trends and customer satisfaction of the organization. In other hand to complete other business activity of managerial position.

Hence, it would therefore be desirable to develop a Food Order Processing System to collect data regarding the condition of a select organization and to provide perfect reports. This system will expected totally self-contained and works efficiently and effectively. And also it provides simple database rather than complex ones for high business requirements and it provides good and easy graphical user interface to Food Order process information management officers (Restaurant Administrator) as well as customers, cashiers, chef.

According to the client major requirement, this particular system project deals with the problem of managing a restaurant. Because all task process is manual in this organization. In addition, avoid the problem, which occur due to the drawbacks of the existing system. It leads to the designing of web-based system that will be compatible to the existing manual system with the system, which is more user friendly.

Thus, the motivation for designing this application came because with this system can earn more customers by expanding into new market spaces rather than fighting for a place and also any customer who is involved in the fast food ordering do not like to wait for long consuming time. During the special breakfast, lunch or dinner customers can surprise their love ones and family members because of this kind of online order processing system.

1.3. Objectives

The main objective of developing this System is to have quality and feasible to keep expected business information area which is a manual process that restaurant is using currently and with that attain the competitive advantage. Another objective is the system should be user friendly and easy to maintain. The system should be produced with easy to modify and can address any form of constraints in an actual situation happen. The system should also be robust and produce a feasible solution for any big problem. Eventually it can be summarized the main objectives and sub objectives as follows.

Main objectives:

- Design a Food Order Processing System to keep expected business information area with having quality and feasible to gain better customer relationship via competitive advantage. As well, as to provide Transaction Processing System in an effective and efficient way of restaurant daily routine transactions.
- To identify the organization goals and how its behaviour affects online food order operations.

Sub Objectives:

- Design a system for solving the problem and become more profitable.
- To understand the food order process structure.
- Evolution of the proposed system.
- Preparation of final reports and documentations.
- To identify the weakness of existing system and eradicating it.

This software product help the order process to improve their service for all register or non-register customers of restaurants. This also will reduce the manual work of person in admin panel and the bundle of registers that were searched when to find the information of previous process.

Because, through this system can the registered data and this can check the profile of all the current customers within few minutes via the database of the system. It will give help to check particular order requested process. Eventually, in this system will provide successful, effective and useful friendly web based food order processing structures.

1.4. Scope and Limitations

The existing system is manual based because this organization is small and the managers did not need this kind of a system in the past with lack of competitiveness. However, many efforts are needed and consuming a lot of time. Therefore, via the interviews conducted with restaurant contact person of Mr. Pradeep Madusanka. And discussed separate there are several problem in the manual system. He mentioned that the need of future promote strategy such as electronic business situation and explained they need to expand their business beyond the boundaries towards the ahead when compare to their competitors.

Little Rose restaurant has twelve number of employees with managerial. This organization is one of the branch of Little Rose restaurant group, which is located in Enderamulla, Wattala. This entire restaurant present managed using traditional manual type order process system.

Thus, this restaurant has twelve tables and relevant ten chairs. And separate workstation layout process. The workstation has consisted cashier, kitchen, customer area, and manager side. Process of restaurant at present are managed using record and calculation on document by restaurant manager and deputy officer.

This restaurant provide their customer service form 5.30 a.m. to till 22.30 p.m. It allows arranging suitable table and taking meals or drinks order for customer. And cashier will be allowed particular calculation of according to orders. And waiter for major cooks of restaurant will transform order request items to kitchen. Then prepare the requested meal order and it will be sent to requested table. In the situation cashier layout area prepares calculation and invoice process. As well as the stock of kitchen needs and clean place will be checked by the manager.

So with the existing food order process the customers have to wait and see in the queues with wasting their valuable time. So the customers may move for another restaurant and they may not satisfy as the restaurant's manager might think. And the administrator of the existing process has the responsibility of keeping all the records manually and prepare an analysis manually whenever needed.

The major drawback of the existing system is that it is manual system that only use by managerial purpose only in the restaurant. Most part of the business process is still handled by manually and not allow to use this organization any computer technology.

And also customer queries can be difficult to respond because information is stored in different places. Other drawbacks are shown below,

- Difficult to get quick decisions because can't analyse the manual report as soon as possible and whatever needed.
- Not cost effective. Ex.-High cost is wasting for large ongoing staff training.
- Poor security
- The output of the system always depends on better operators.
- A lot of time and money is wasting to produce manual reports.
- Data redundancy where presence of duplicate data in multiple places.
- Inconsistency in data entry, many human errors and mistakes will occur.
- Lack of flexibility.
- Lack of data sharing and availability.
- Difficult to update to handle bundles of documents, record keeping and update data.
- The books in which the records are maintained may be involved damages or other disasters. Ex.-Natural disasters, May be stolen by someone.
- Lack of stakeholder satisfaction.
- The financial impact of irregularities made by the Non Managerial employees in the workplace.
- Some decisions may be wrong and not compatible to attain the competitive advantage.

The above drawbacks of the selected organization can remove through on investment for new online food order processing system. Therefore, there is a better financial benefit can earn as well as can profitable from the proposed system.

1.5. System Development method and Methodology

The waterfall model was chosen as the system development method. It includes a sequence of activities; these are explained with given justification below. This is the most common and classic of life cycle models, also referred to as a linear-sequential life cycle model. It is very simple to understand and use.

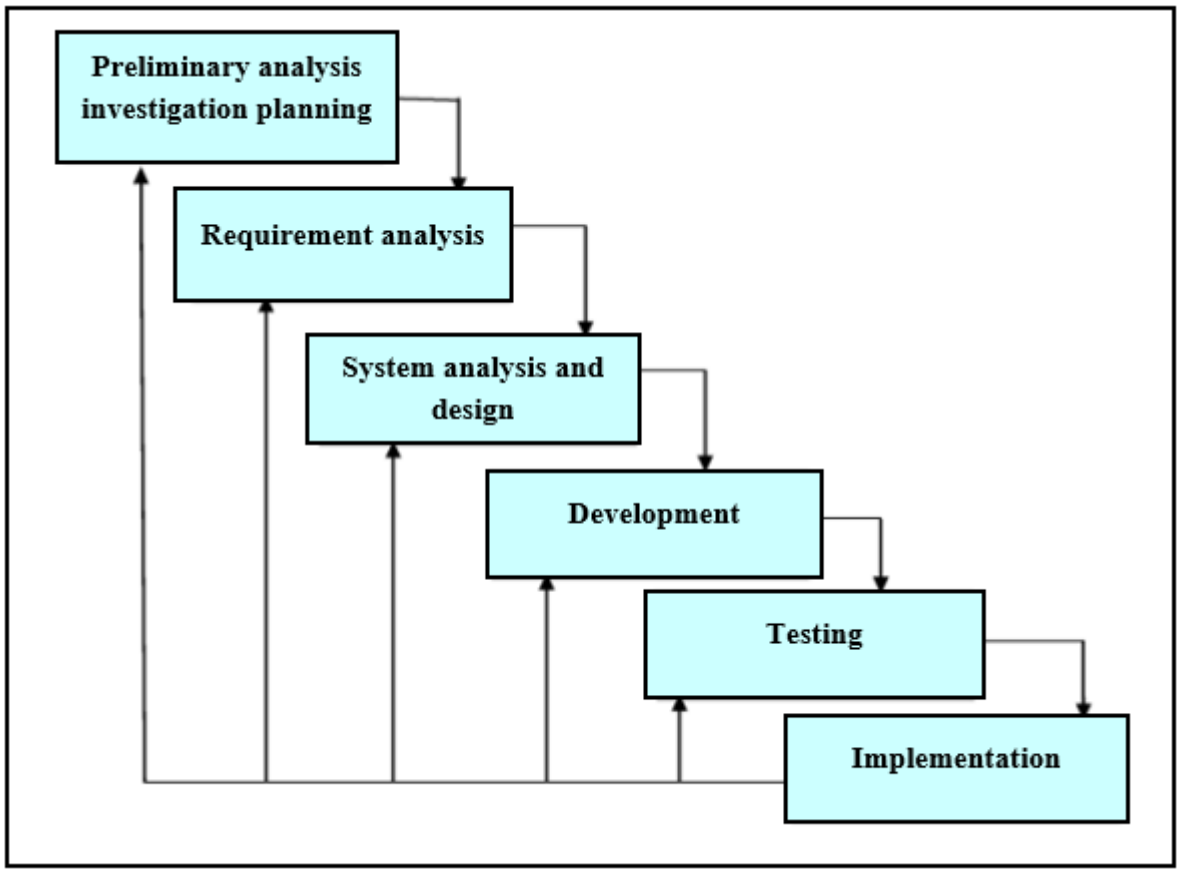


Figure 1 Waterfall Model

In a waterfall model, each phase must be completed in its entirety before the next phase can begin. At the end of each phase, a review takes place to determine if the project is on the right path and whether or not to continue or discard the project.

1. Preliminary Analysis Investigation Planning

The First stage of preliminary analysis is consisted main objective of identifying problems. And make ready the relevant document such as an approved letter from the manager of the restaurant. Then discuss an appointment date with Mr. Pradeep Madusanka for an interview and visited the place for an exploration. And also online research on the background of the online food order process system and especially about database controlling and negotiations for online payment.

2. Requirement Analysis:

Requirement analysis will show the operation of the current system and more vitally and gather business process information about current structure and manager approval to study within the documents and reports. And interviewing the person who responsible for facility order in the staff. The client requirements and organization mission and vision discuss. And observation, document about restaurant management and sales and payment process. Identifying the actual needs of the users in functional and non-functional viewpoint is covered in this phase. In this phase, complete investigation of the client organization and identifying the project objectives, goals, and deliverables are focused to initialize the project.

3. System Analysis and Design:

System analysis and design has consisted identifying requirement and summarizing. Thus, it will prepare the structure and interface design. So, and provide make modeling the existing system using a context data flow diagram. The concept makes modeling the new system using the context and draw modeling an Entity relationship (ER) diagram. The proposed solution will be architected with UML diagrams and with this foundation, the proposed system must be generated to deploy in the client organization.

4. Development:

The concept of development has based on the design; the system can design using SQL server, C#, ASP.Net and other programming language in its developing an environment.

5. Testing:

It is an obvious fact that every system needs to be test before it goes for the initial working environment. Each unit is developed and test for its functionality. This is called as unit testing. Then, these units are integrated into complete system and test to check if all units coordinate between each other. This is called integrated testing and system testing will be done. Finally, the system will be handover to the customer to user testing. Each component or unit of the system will be tested to remove the errors and incompatibilities of the generated system. Unit and integration testing will be taken first and then the installation testing done.

6. Implementation:

The implementation step performs this task. Any problem with the system will be sorted once the testing has been completed. And working out with the real environment. Continuous evaluation of the processes of the system is an unending activity of the developers and users. Future modifications and alterations will take place continually in the span of life of the system.

2. BRIEF DESCRIPTION OF THE SOFTWARE AND HARDWARE SPECIFICATION TO DEVELOP THE PROPOSED SYSTEM

In order to develop a better system, it is very important to choose the correct hardware, software and technology. Here are some explanations of the hardware, software and technology chosen as development tools for the Online Food Order Processing System.

2.1. Hardware Technology Consideration

- Processor : core i5
- Processor speed : 2.40 GHz
- Memory : 8 GB RAM
- Hard Drive : 1 TB
- Printer
- Keyboard and Mouse

2.2. Software Technology Consideration

- Operating System : Windows 10
- Front End : Microsoft Technology-Visual Studio 2010 C#.Net in ASP.Net Framework
- Back End : SQL Server 2008

2.3. Graphics Design Tools Technology Consideration

- Adobe Photoshop CS6
- Macro Media Firework 8 Version
- MS-Visio 2010

3. RESEARCH METHODOLOGY

It was decided that the research method to be utilized would be conducting interviews, literature review to gather user requirement and developing a prototype of the system. Gathering the information was done through interviews conducted with the Little Rose restaurant.

3.1. Expected Outcome

The online food order processing system is a web-based software to provide relation of customer requirement to the restaurant more effectively and efficiently. It gives an idea about how to deal with among customer, administer and non-managerial and other unit's with orders, payments are maintained in a particular way. This system also includes some special features.

Withal, the main modules of this project are user module, an admin module, order check module and payment module. These modules will be expected mainly to provide aim of the proposed system. This project mainly aims to deal with the operation of restaurant business strategy. It consists of these below modules.

1. Administrator module
    - 1.1. Admin login
    - 1.2. System user registration
    - 1.3. Maintain reports
    - 1.4. Maintain order information check list
    - 1.5. Maintain user account and customer details
    - 1.6. Maintain payments
    - 1.7. Add, Edit, Update and Delete customer
    - 1.8. Add, Edit, Update, Delete, Logout products
    - 1.9. Add, Edit, Update and Delete marketing ads

2. Customer module
    - 2.1. With easy registration on the website and can change their password
    - 2.2. Allow any registered customers to access with the valid password
    - 2.3. The user can order food items and give their comments on it
    - 2.4. Add, Edit, Update, and Remove order

2.5. Users can access for order list and payment

3. Sales management module
   3.1. Order information
   3.2. Delivery reports
   3.3. Food order menu and check

4. Payment module
   4.1. Shopping card

Under the customer user profile has basic detail, such as name, address, registration number, telephone and location etc.

Search criteria of the system:

1. Search order customer by records area.
2. Search and filter many orders, records by order information checklist.
3. Search payment process by the payment module consist with shopping card.
4. Weekly, monthly, six monthly or annual sale search by payment module.

This proposed system has following features and services.

Features:

- **It is easy to use and user friendly**

  Within the proposed system is easy to use and user friendly because storing of data is fast and data are maintained efficiently and effectively. Furthermore, the graphical user interface is provided in the proposed system is more attractive to the user. And also users can deal with it easily. Can easily get familiar with it.

- **Provide computer operator control**

  Computer operator control, there will be no errors can work 24 hours without any rest. Furthermore, storing and retrieving of information is easy. Therefore, work can be more effective and efficient and no need to wait and see.

- **Reports are easily generated**

  Priority daily business report can be easily generated within the proposed system. By other hand, any type of report can be generated in the proposed system, and which help the managers in a decision-making activities and to gain the competitive advantage as well.

- **Can attract more customers beyond the market arena**

  With the online food ordering system can earn more customers outside of their market zone rather than fighting for a single market place.

Services:

- It is easy and fast to maintain past records of business process in the restaurant.
- Provide restaurant daily business reports detail to manager analyse further demand.
- "Search" and order service to find favourite meals as the customer's taste and feel.
- Can manage every customer service and financial information in the selected department and can easily generate reports in detail at any time as they wish.
- Quickly allow access to customer, process of cashier, process of management and kitchen area details, to have a clear picture of what is happening.

4. BUDGET

Description	Amount
Software Development Cost	87,000
Hardware Purchases(computer, Printer)	10,000
Network Cost	5000
Printing and Binding of Report	8000
Other Miscellaneous Expensive	2000
Amount	113,000

5. ORGANIZATION/TIME SCHEDULE OF THE SYSTEM DEVELOPMENT

5.1. Breakdown of tasks and Durations

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**1. Online food order processing system**	**106 days**	**Mon 03/07/17**	**Fri 24/11/17**	
2		**1.1.Inititation Plan**	**8 days**	**Mon 03/07/17**	**Wed 12/07/17**	
3		1.1.1. Evaluate the current system	2 days	Mon 03/07/17	Tue 04/07/17	
4		1.1.2.Gather information by interview	3 days	Wed 05/07/17	Fri 07/07/17	3
5		1.1.3.Write Review & Interview	3 days	Mon 10/07/17	Wed 12/07/17	4
6		**1.2.Requirement Analysis**	**16 days**	**Thu 13/07/17**	**Thu 03/08/17**	
7		1.2.1.Data Analysis & Draw	6 days	Thu 13/07/17	Thu 20/07/17	
8		1.2.2.Analyze Architecture	4 days	Fri 21/07/17	Wed 26/07/17	7
9		1.2.3.Develop Requirement document	3 days	Thu 27/07/17	Mon 31/07/17	8
10		1.2.4.User Review & Accept requirement	3 days	Tue 01/08/17	Thu 03/08/17	9
11		**1.3.Design the system**	**16 days**	**Fri 04/08/17**	**Fri 25/08/17**	
12		1.3.1.Design the database model	5 days	Fri 04/08/17	Thu 10/08/17	
13		1.3.2.Design Graphical user interface	5 days	Fri 11/08/17	Thu 17/08/17	12
14		1.3.3.Determine appropriate framework	3 days	Fri 18/08/17	Tue 22/08/17	13
15		1.3.4.Review & approve design	3 days	Wed 23/08/17	Fri 25/08/17	14
16		**1.4.Develop the system**	**50 days**	**Sat 26/08/17**	**Thu 02/11/17**	
17		1.4.1.Collect the resources	8 days	Sat 26/08/17	Tue 05/09/17	
18		1.4.2.Setup system database	8 days	Wed 06/09/17	Fri 15/09/17	17
19		1.4.3.Coding	26 days	Mon 18/09/17	Mon 23/10/17	18
20		1.4.4.Develop subsystem	8 days	Tue 24/10/17	Thu 02/11/17	19
21		**1.5.Testing**	**10 days**	**Fri 03/11/17**	**Thu 16/11/17**	
22		1.5.1.Unit testing	3 days	Fri 03/11/17	Tue 07/11/17	
23		1.5.2.Integration & system testing	3 days	Wed 08/11/17	Fri 10/11/17	22
24		1.5.3.Acceptance testing	2 days	Mon 13/11/17	Tue 14/11/17	23
25		1.5.4.Evaluate the result	2 days	Wed 15/11/17	Thu 16/11/17	24
26		**1.6.Implementation**	**6 days**	**Fri 17/11/17**	**Fri 24/11/17**	
27		1.6.1.Install the system	3 days	Fri 17/11/17	Tue 21/11/17	
28		1.6.2.Maintaining the system	3 days	Wed 22/11/17	Fri 24/11/17	27

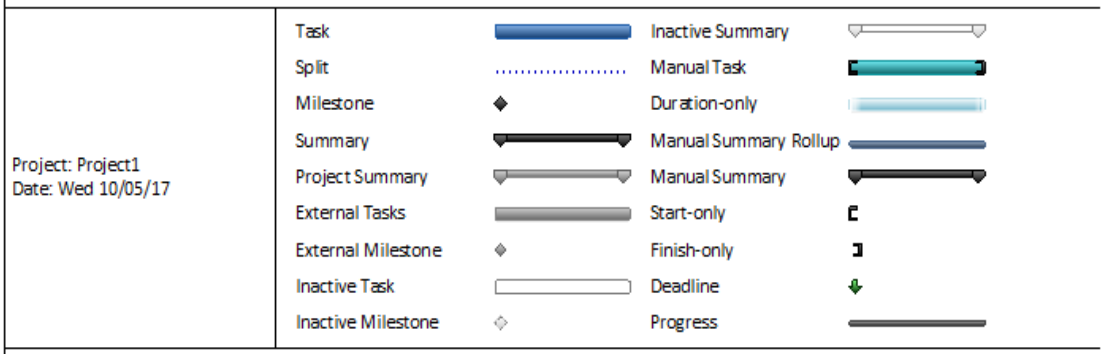


Figure 2 Work Break Down Structure

5.1. Gantt chart with Work Schedule

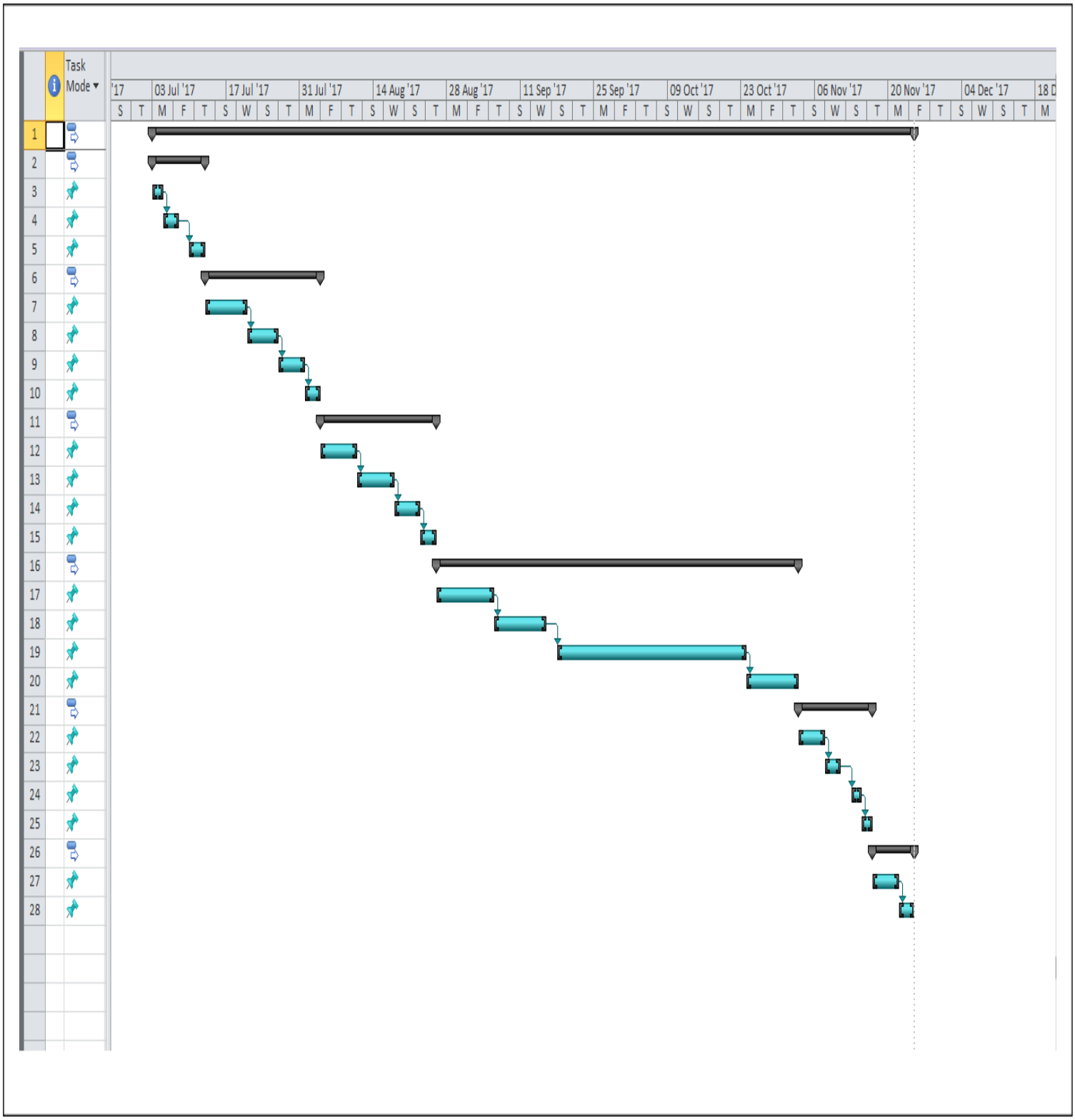
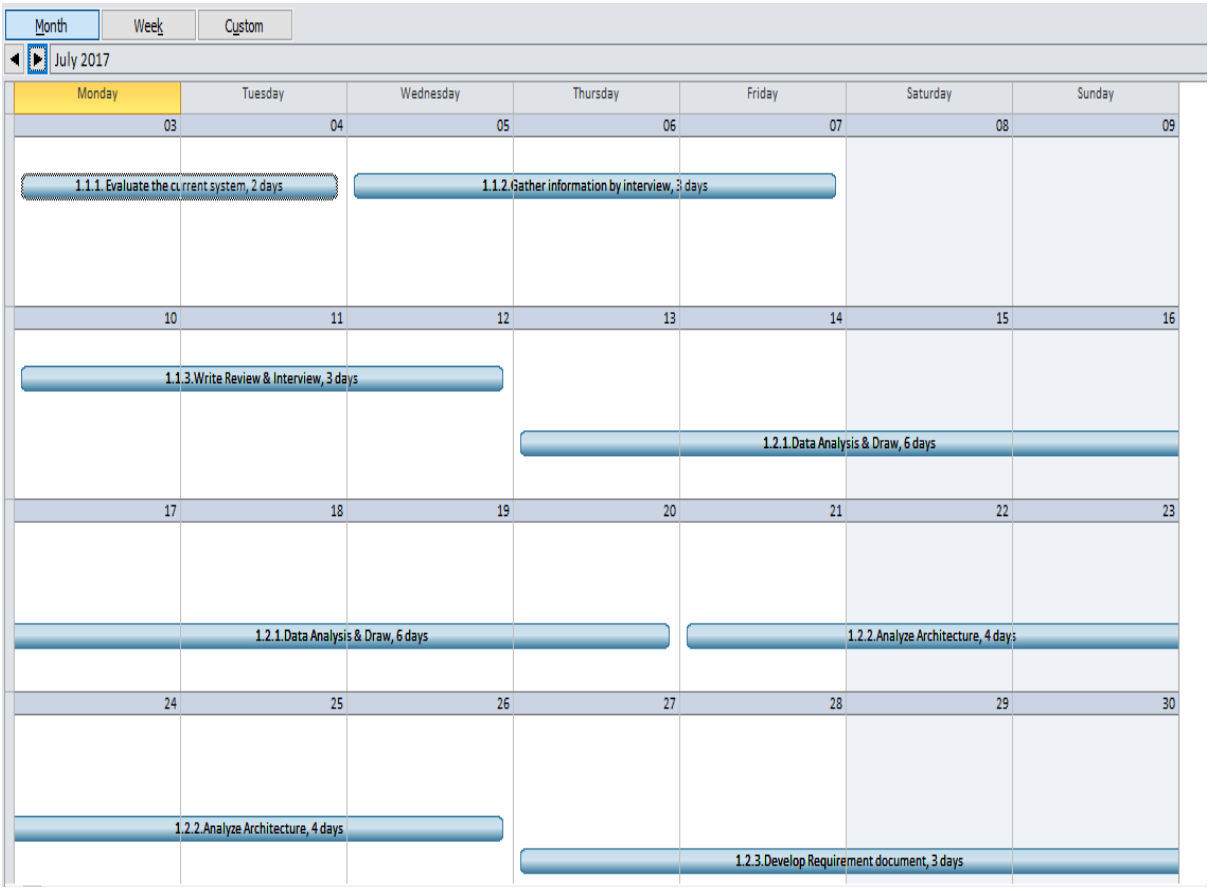


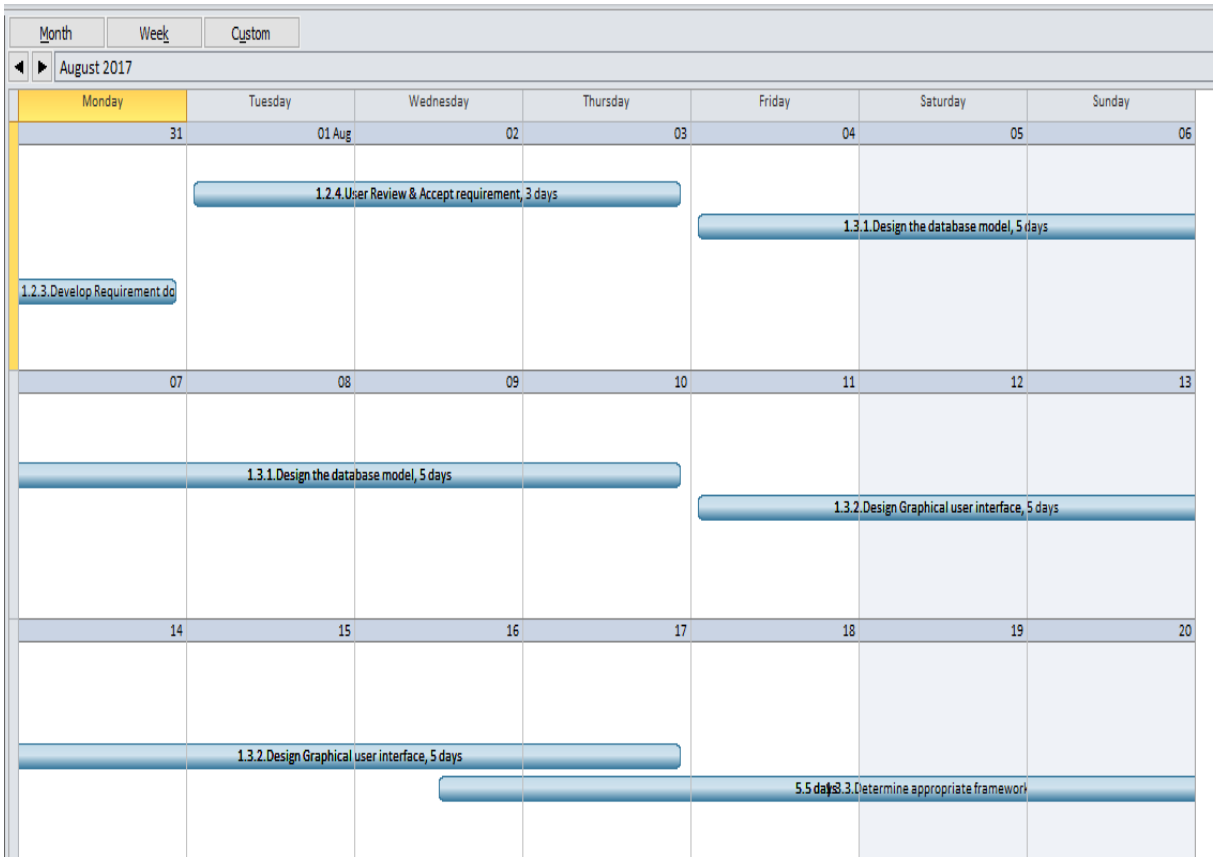
Figure 3 Gantt Chart

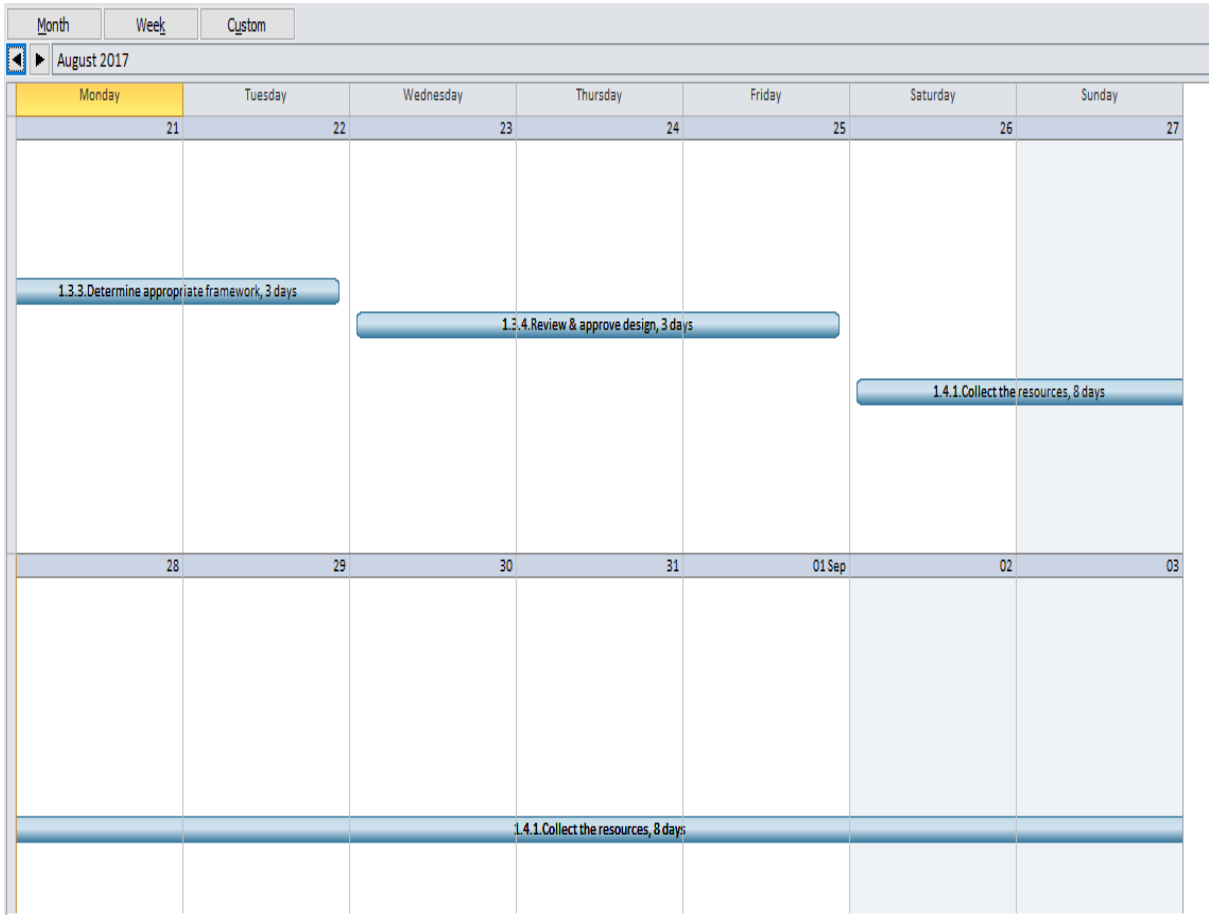
5.2. Timeline and Work Calendar

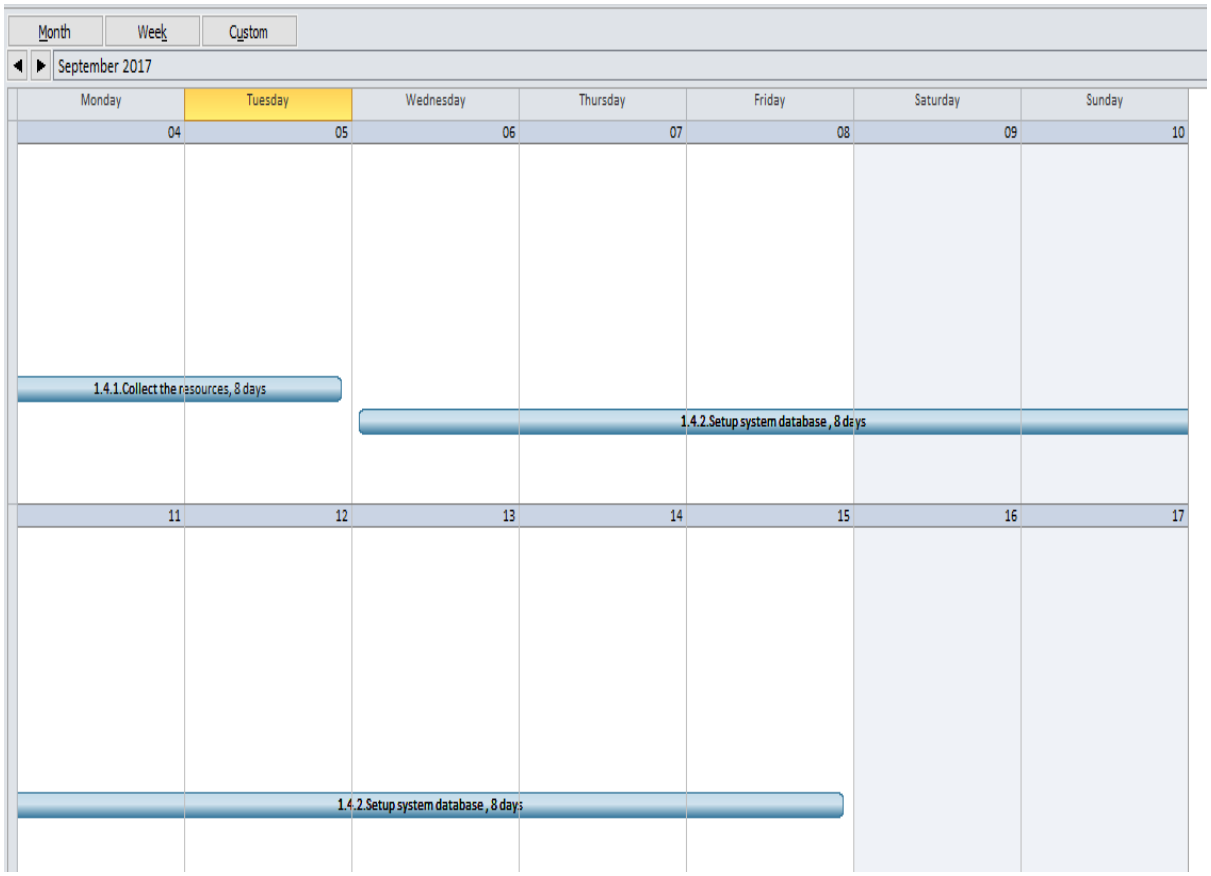
Virtually the time scheduling of the system development is depending on the semester's ending and we have to submit the entire project with documentation within the period. To satisfy this constraint I have scheduled this system for the four-month period starting from the 03rd of July 2017 and to finish at around the 24th of November 2017. This is not a static one and this time frame may vary to the official schedule of the department.

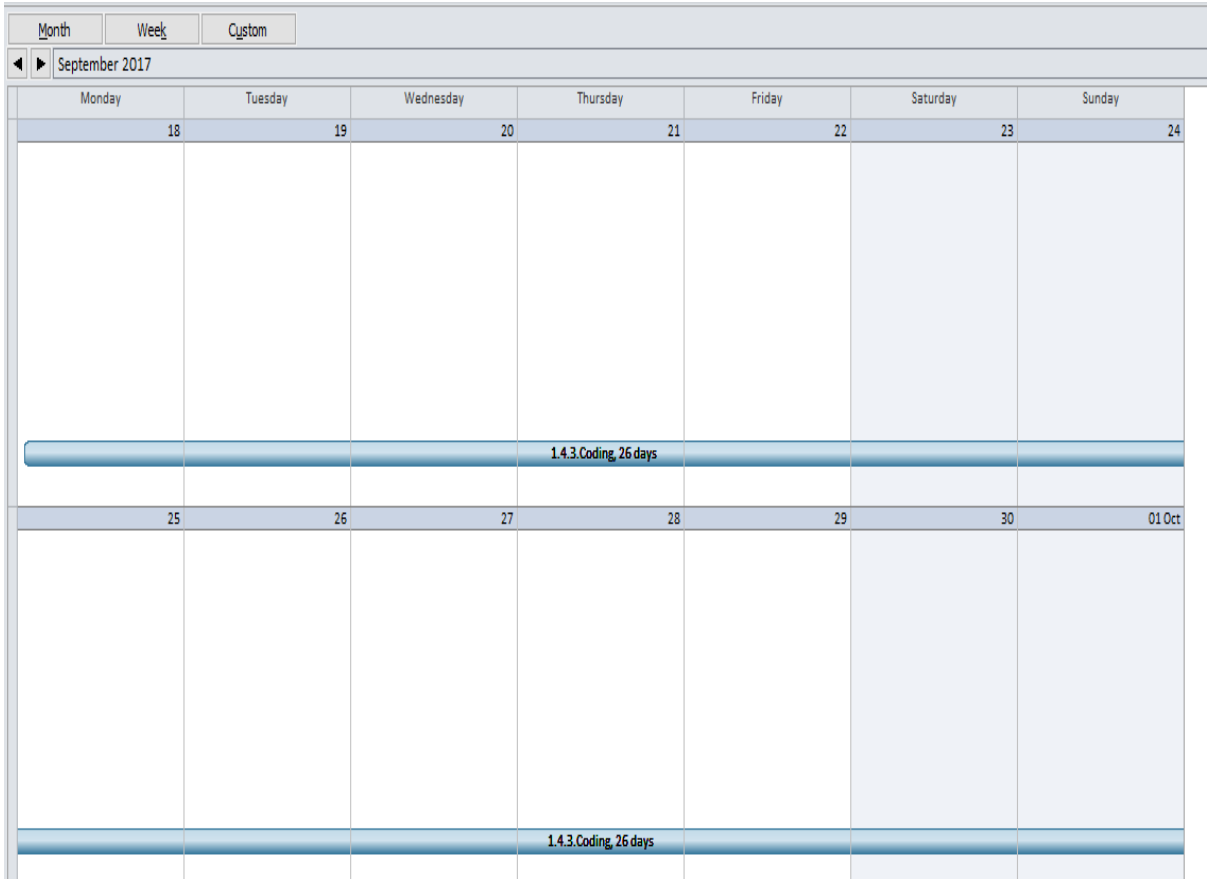
Figure 4 Time Line

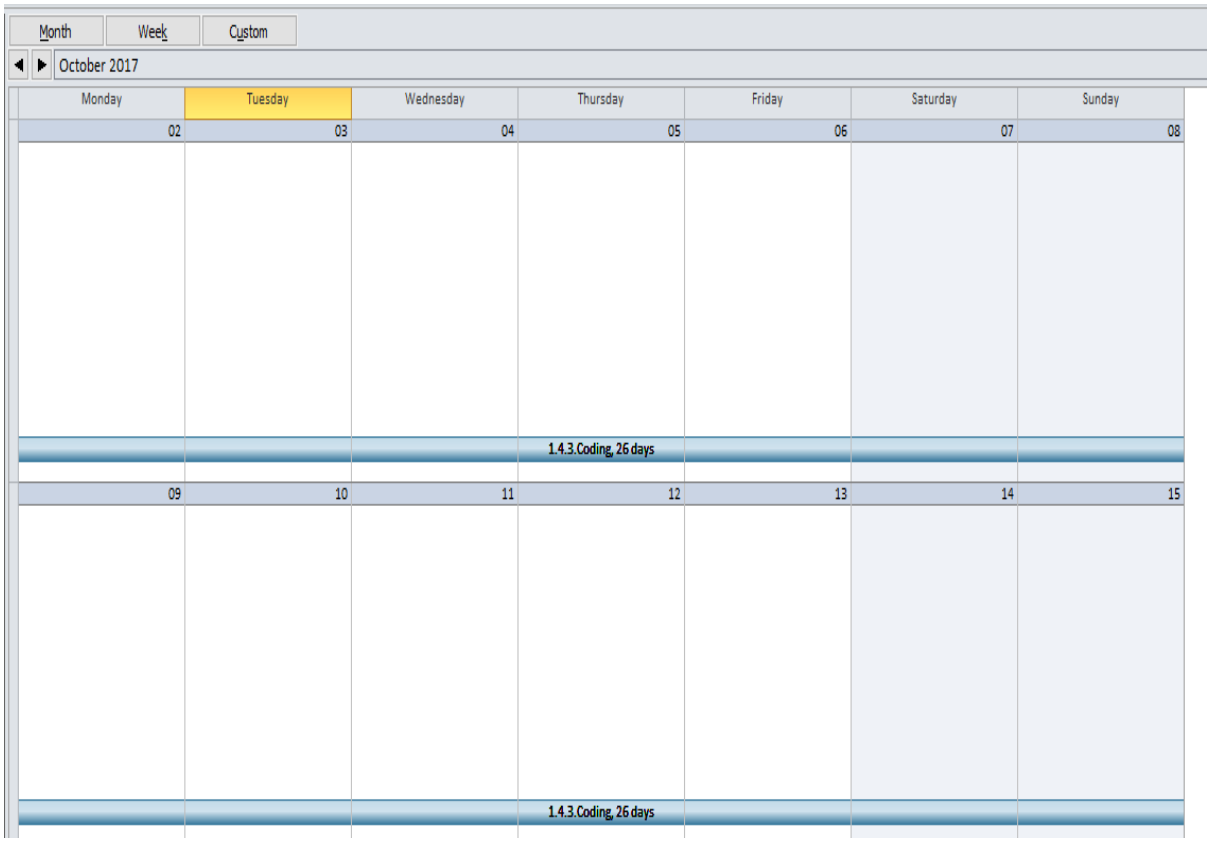


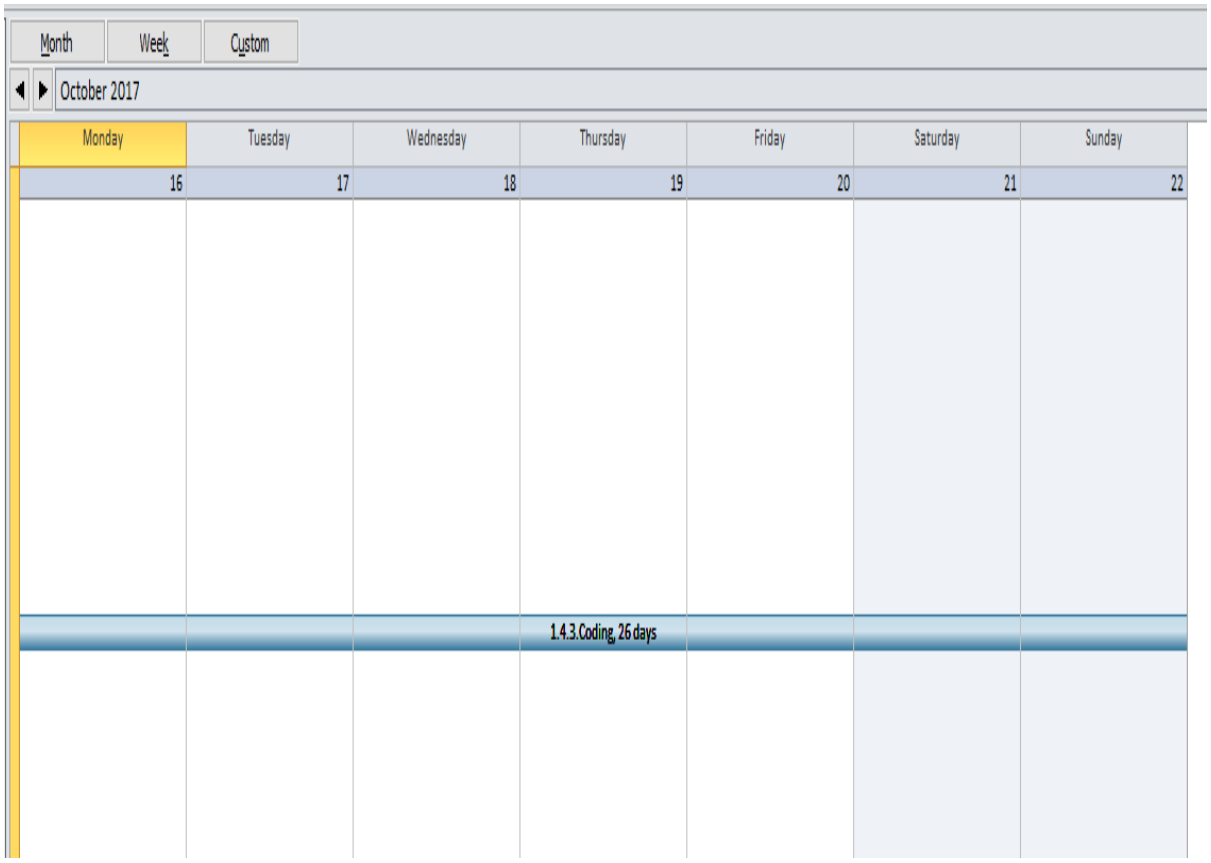

Month
Week
Custom
August 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
31
01 Aug
02
03
04
05
06
1.2.4.User Review & Accept requirement, 3 days
1.3.1.Design the database model, 5 days
1.2.3.Develop Requirement do
07
08
09
10
11
12
13
1.3.1.Design the database model, 5 days
1.3.2.Design Graphical user interface, 5 days
14
15
16
17
18
19
20
1.3.2.Design Graphical user interface, 5 days
5.5 days
1.3.3.Determine appropriate framework

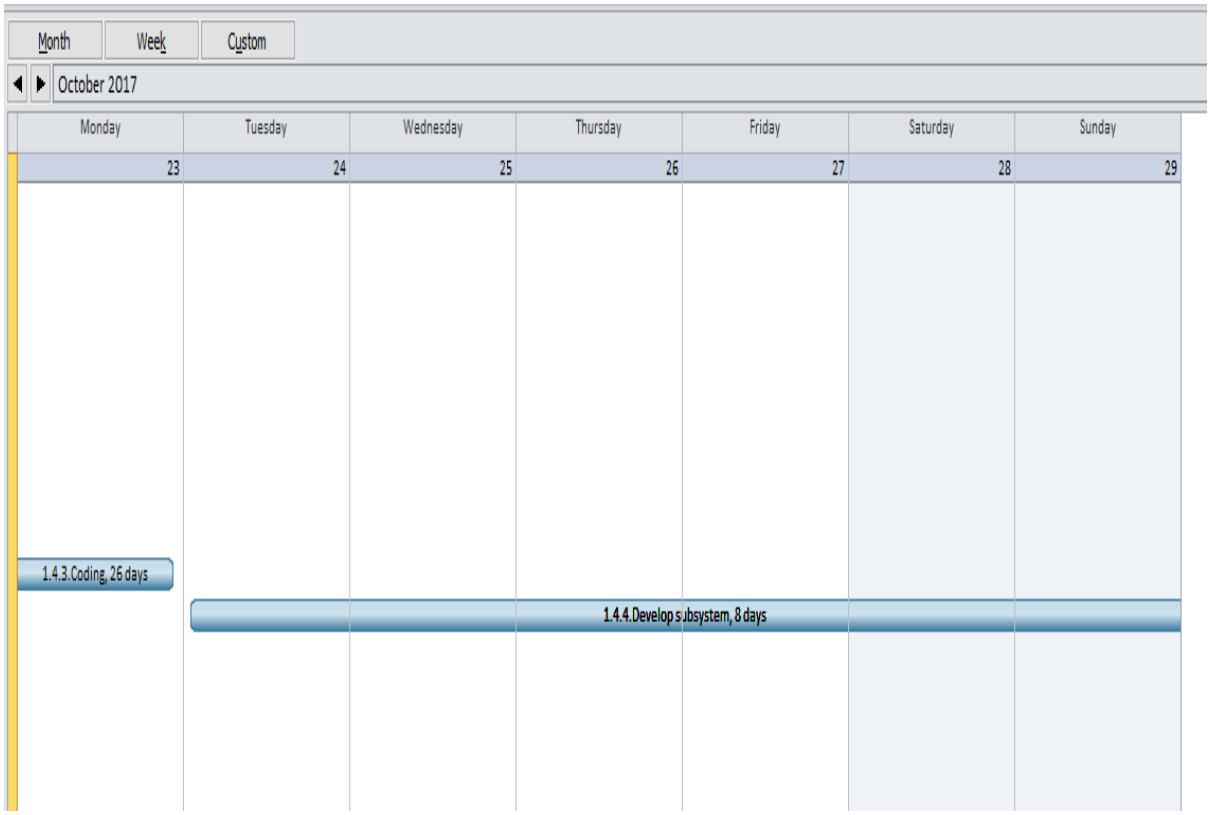

Month
Week
Custom
August 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
21
22
23
24
25
26
27
1.3.3.Determine appropriate framework, 3 days
1.3.4.Review & approve design, 3 days
1.4.1.Collect the resources, 8 days
28
29
30
31
01 Sep
02
03
1.4.1.Collect the resources, 8 days

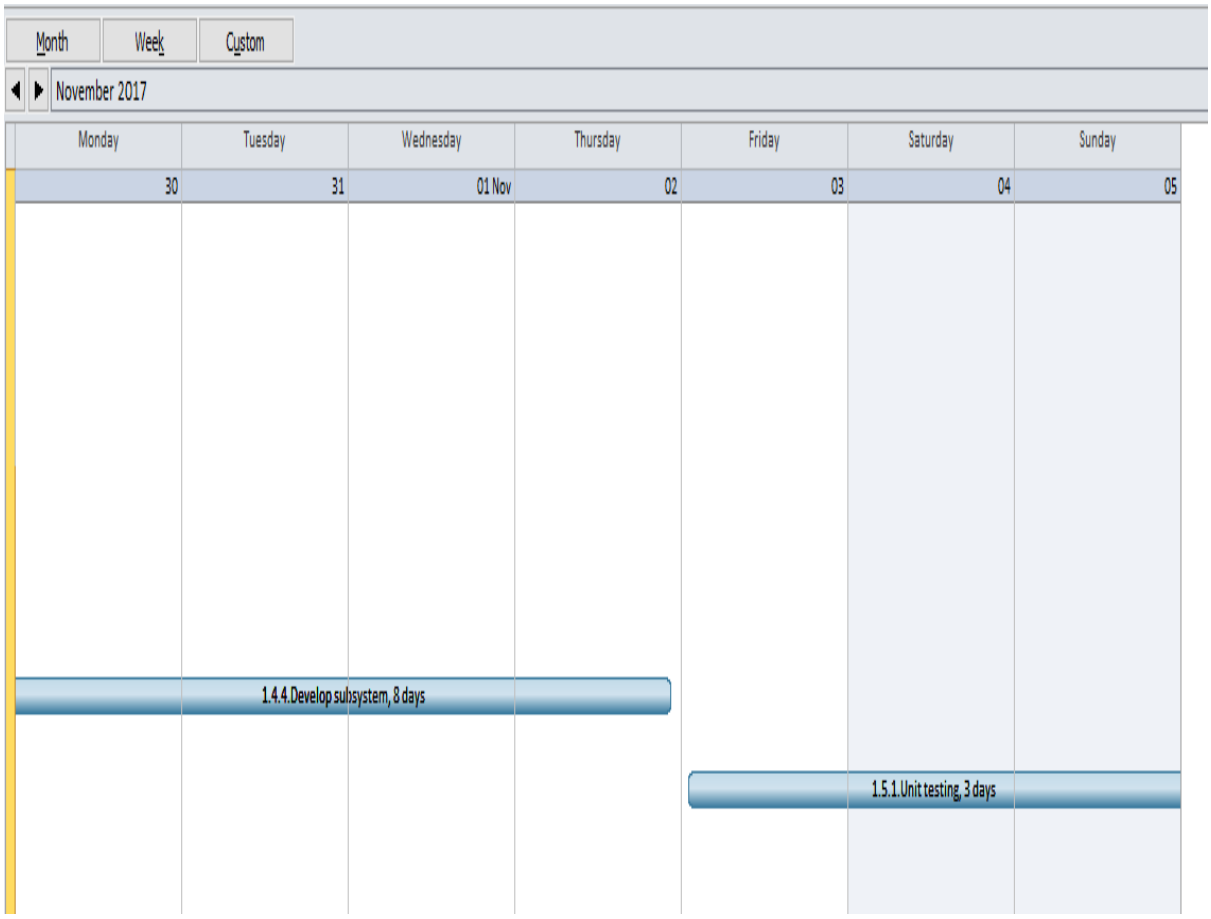

Month
Week
Custom
September 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
04
05
06
07
08
09
10
1.4.1.Collect the resources, 8 days
1.4.2.Setup system database , 8 days
11
12
13
14
15
16
17
1.4.2.Setup system database , 8 days

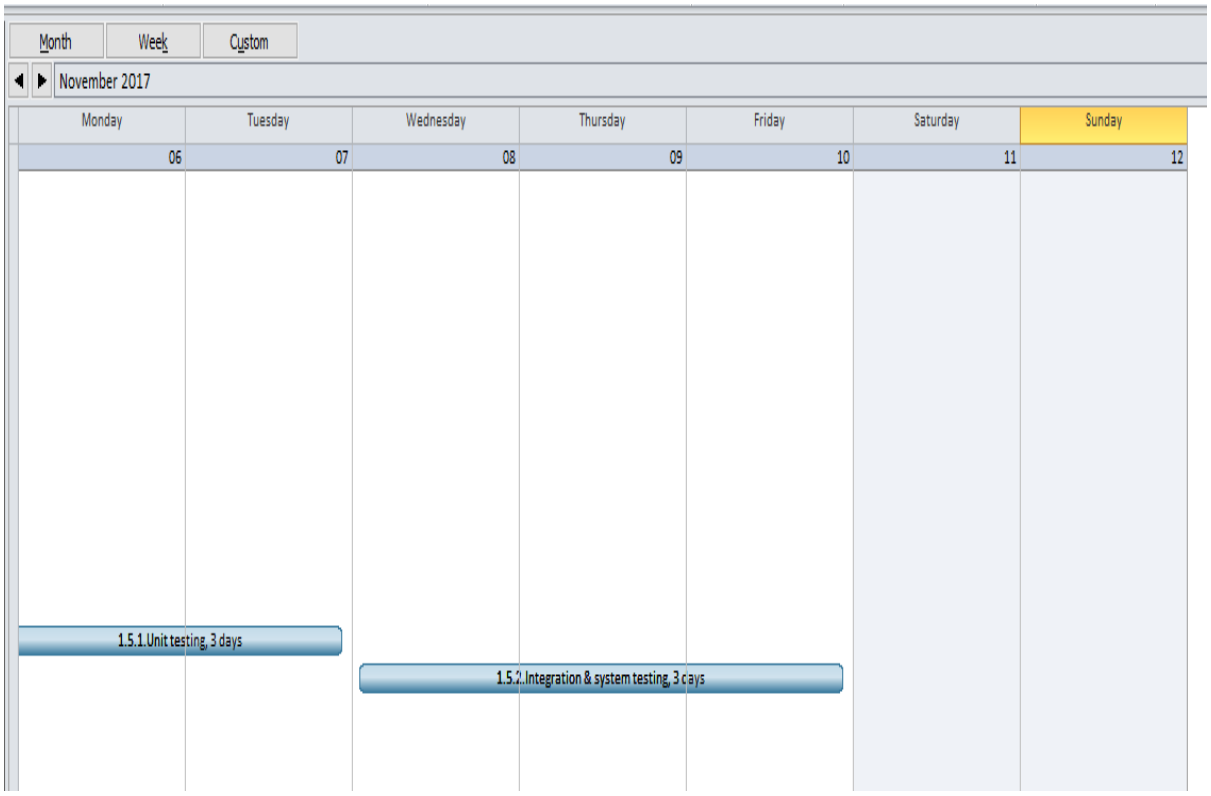

Month
Week
Custom
September 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
18
19
20
21
22
23
24
1.4.3.Coding, 26 days
25
26
27
28
29
30
01 Oct
1.4.3.Coding, 26 days

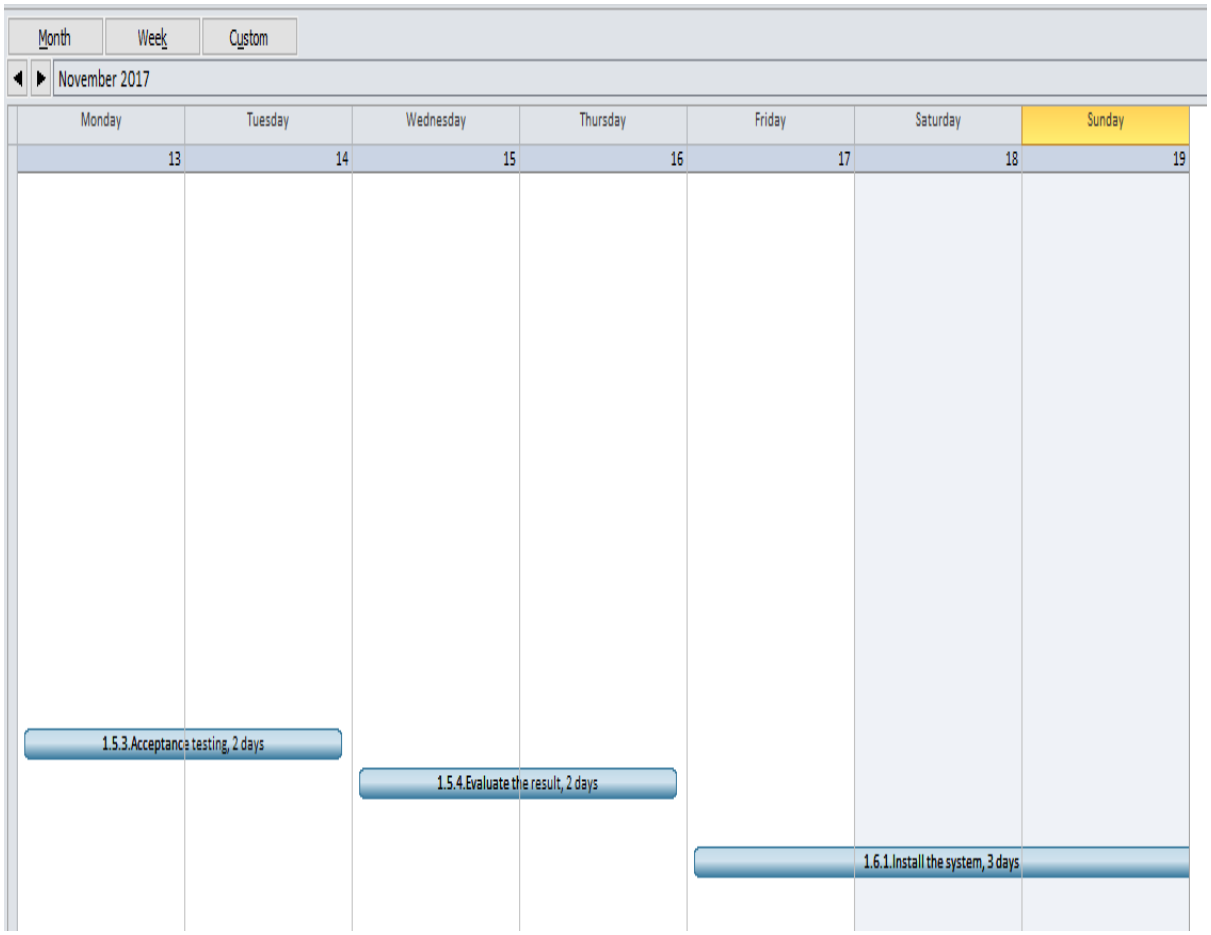

Month
Week
Custom
October 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
02
03
04
05
06
07
08
1.4.3.Coding, 26 days
09
10
11
12
13
14
15
1.4.3.Coding, 26 days


Month
Week
Custom
October 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
16
17
18
19
20
21
22
1.4.3.Coding, 26 days


Month
Week
Custom
October 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
23
24
25
26
27
28
29
1.4.3.Coding, 26 days
1.4.4.Develop subsystem, 8 days


Month
Week
Custom
November 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
30
31
01 Nov
02
03
04
05
1.4.4.Develop subsystem, 8 days
1.5.1.Unit testing, 3 days


Month
Week
Custom
November 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
06
07
08
09
10
11
12
1.5.1.Unit testing, 3 days
1.5.2.Integration & system testing, 3 days


Month
Week
Custom
November 2017
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
13
14
15
16
17
18
19
1.5.3.Acceptance testing, 2 days
1.5.4.Evaluate the result, 2 days
1.6.1.Install the system, 3 days

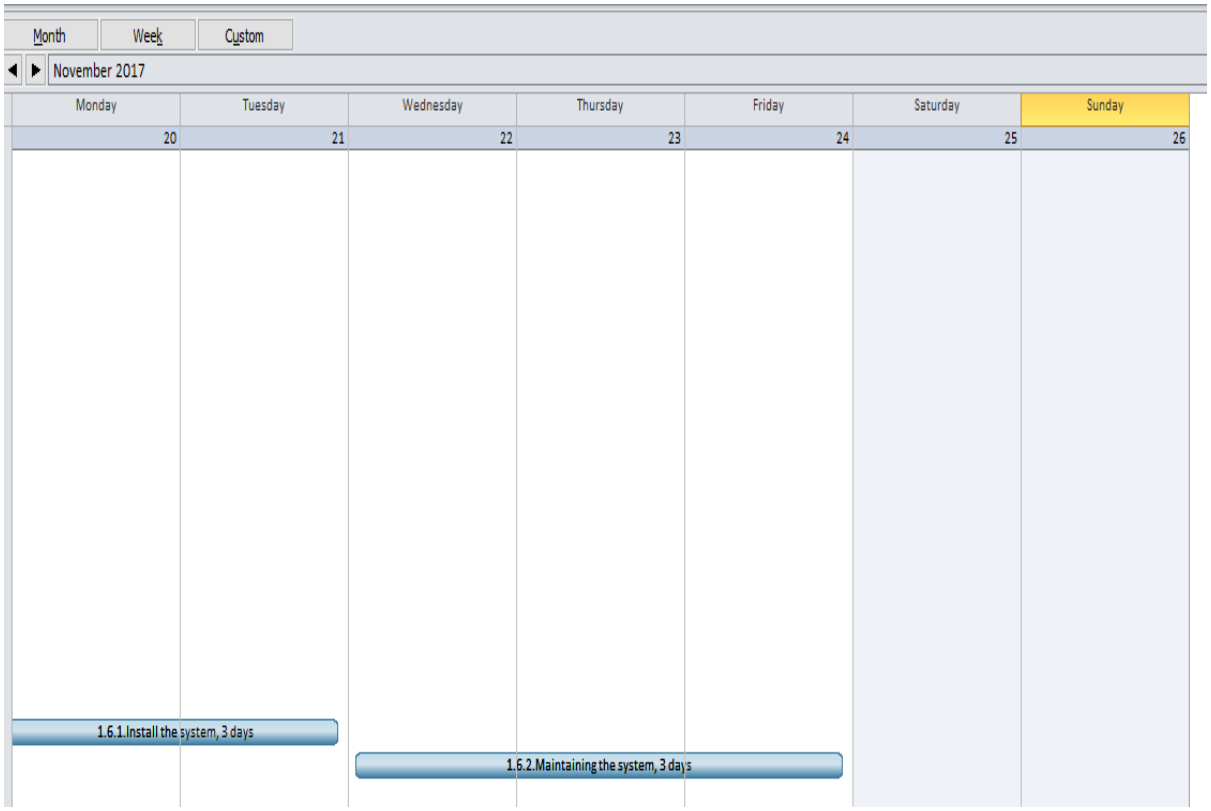


Figure 5 Work Calendar

6. REFERENCES

- Software Engineering (10th Edition)

  By: Ian Somerville.

- Object Oriented Analyzing and design

  By: Simon Bennet

- Beginning Visual C# 2010

  By: Jon. D. Reid, Morgan Skinner