

**INFORMATION SYSTEMS ANALYSIS AND DESIGN
ASSIGNMENT 1 - ABOUT SYSTEMS DEVELOPMENT**

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Executive summary

The objective of the report is to develop an online information system for UNICEF Child Care to help replace its current manual system of its business operations and activities. The report highlights the problems associated with the organization manual system and takes it into account, by selecting an appropriate approach to system development. Water model is chosen in this process and the functional and nonfunctional requirements of new system are also consider. Project cost benefit analysis and Gantt chart along with work breakdown structure have been created to outline the project activities and costs.

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Introduction

The purpose of the report is to analyze and design an information system for UNICEF Child Care. The report will examine and document the functional and nonfunctional requirements of the online system needed by the organization. A suitable approach will be selected for system development incorporating all the needs of the new system. Work breakdown structure and Gantt chart will be prepared for project scheduling. Apart from that, project cost benefit analysis is conducted to forecasts budget of system development project of UNICEF Child care. The report will also provide information about different stakeholders and investigation techniques employed for system analysis.

Task 1 Approach to system development

Developing information system

UNICEF Child Care is an organization based in Australia working to offer caring and supervising facilities for children ranging from 6 weeks of age to 13 years of age (Unicef.org.au, 2018). The parents of the children in return pay money for their services and facilities. The operational system of the UNICEF Child care for payment is totally manual based. The parent of the children taken care by the organization has to visit bank in order to do the payment and deposit the amount on their trust account. After depositing the money, they have to call or send email to the staff to get invoice or receipts for that payment. Apart from that, ordering and estimating of supplies along with maintaining accounts manually is a difficult task. Thereby, the organization has decided to shift from manual process to online process.

The problems identified in the current system of UNICEF Child Care are:

- Employees need to present all the time to attend and answer calls and respond to emails from parents.
- Need to send year statement providing detailed information regarding payment
- Due to inaccurate estimation of stock level, there was wastage of food supplies.

After analyzing and evaluating the problems of the system, an appropriate approach required to be selected for system development. Therefore, waterfall model has been chosen for this purpose.

Justification for select approach

According to Azhar *et al.* (2015), waterfall model helps to describe the development stages in a linear and sequential order. This method is basically employ to divide the project into different phases so that it can be completed in a coherent and organized manner without any overlapping of tasks and activities. The waterfall model is a simple system development approach which is quite easy to understand and apply. Besides, the approach is very convenient for managing the rigidity of tasks and activities involved in the project by dividing it into phases, each phase comprising of particular deliverables associated with reviewing process (Dennis *et al.* 2015). The following module is well suited for smaller project like UNICEF Child Care, taking into account very requirements of the system development in detailed order.

Task 2 System requirements

Functional requirements

Control and management system

The new development project of UNICEF Child Care will consist of control and management system. The following system will help to collect and manage the details of children properly and accurately such as name, address, postal address, phone number, email address, etc. It will help to create a database for all information collected (Hakansson, 2015).

Inventory management system

The inventory management can be used for keeping track of food supplies and managing inventory stock of the organization. Food supplies for the children can be updated and will ease the process of distribution to different centers. Apart from that, order of food supplies can be placed online (Hermann *et al.* 2016).

Electronic payment system

As per the opinion of Ioannidis *et al.* (2016), the electronic payment system will provide options for online money transfer and credit or debit card option to the parents. This system will ease the process of transaction and depositing money. The parents will able to generate the receipt for their payment through the system under their client login.

Financial management system

Financial management system will help to keep the records of all business transactions and payment of the organization. It will manage all the process of accounting and finance which will reduce load of paperwork of the organization (Kerzner and Kerzner, 2017).

Non-functional requirements

Reliability

The information maintained in the system should be reliable and accurate for processing and evaluation purposes. Besides, the system should be able to detect problems and managed them as well.

Flexibility

The developed system should be to be flexible to support update and adapt with changes made later on.

Security

The system should support strong security and authentication measures to protect and secure the data as well as user.

Task 3 Project cost benefit analysis

Discussion of project cost benefit analysis

Project cost benefit analysis is an accounting estimation tool used to determine the budget forecast. This method help to make sound decisions through comparison of cost involved in the project and benefits will begin by the organization by investing in it. Cost benefit analysis of the project will be conducted to check economic feasibility (Kerzner and Kerzner, 2017). Besides, it will also used to seek for alternative solutions that can be implemented in the project. The cost benefit analysis will be employed to determine the strengths and weakness of the system development project. The crucial data and information covering different aspect of project requirements and needs will gather. These data will be utilized to generate an appropriate project cost benefit analysis which will be instrumental in decision making process for the organization. The cost benefit analysis for the project will be computed by taking into account onetime cost and recurring cost involved. The analysis technique of the cost benefit analysis will include Net Present Value (NPV), Break Even Analysis (BEA) and Return on Investment (ROI).

UNICEF Child Care						
Project Cost benefit analysis						
	Year of the Project					
	year 0	year 1	year 2	year 3	year 4	year 5
Net Economic benefit	\$0	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
Discount rate 6%	0.6	0.6	0.6	0.6	0.6	0.6
PV Of Benefits	\$135,001	\$135,000	\$135,000	\$135,000	\$135,000	\$135,000
NPV OF all Benfits						
One time Costs	\$225,000					
Recurring costs						
staffs cost	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500
food wastage	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
maintenace cost	\$500	\$500	\$500	\$500	\$500	\$500
Dicsount rate 6%	0.6	0.6	0.6	0.6	0.6	0.6
PV Of Recurring cots	9800	9800	9800	9800	9500	9500
NPV of all Costs	675000					
Overall NPV	684800					
Overall ROI	49000					
Break even Analysis						
Yearly NPV Cash Flow	216001					
Overall NPV Cash Flow	135000					

Figure 1: Project cost Benefits Analysis

(Source: By Learner)

Task 4 Project schedule

- **WBS and Gantt chart**

According to Vasarhelyi and Halper (2018), a work breakdown structure is used to define the work and tasks involved in the project. It is employ in the project to list all activities associated with the project. Tasks will be divided into subtasks to ease the process which will help to provide detail and informed understanding by recognizing the framework of the project.

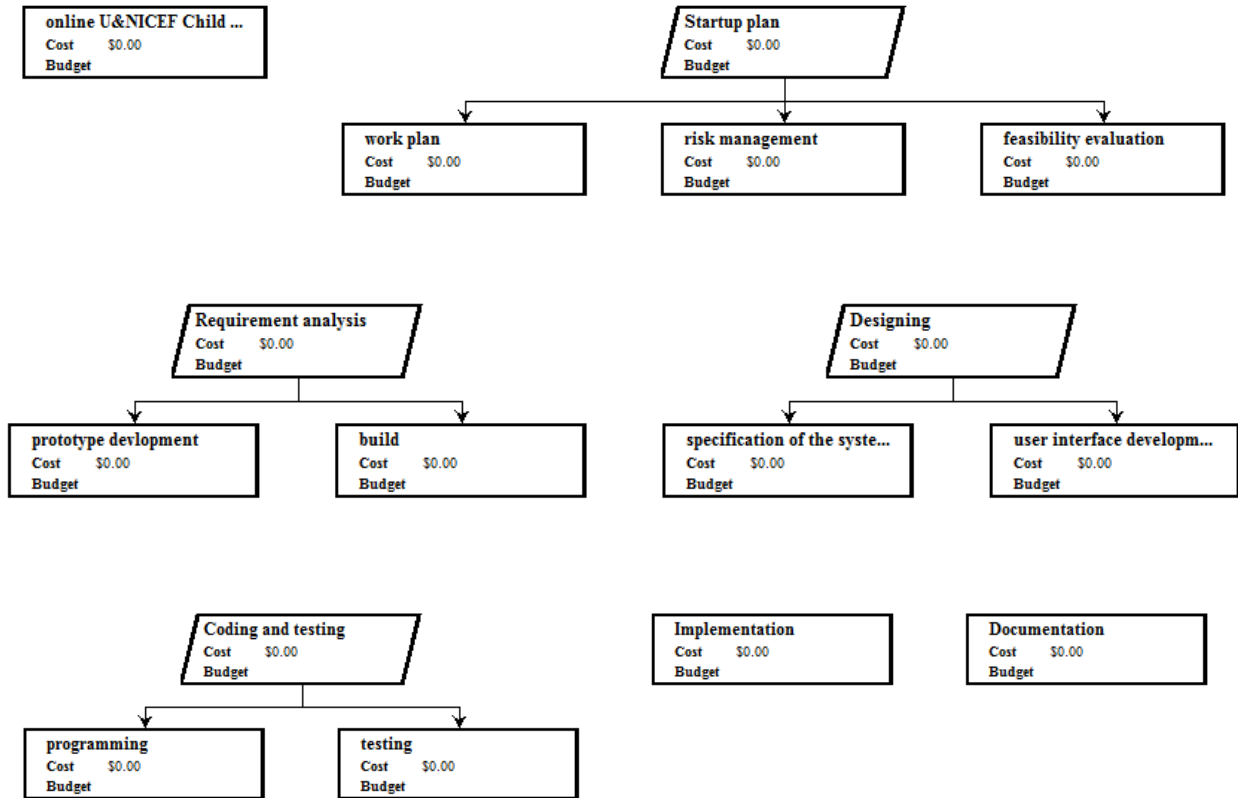


Figure 2: Work Breakdown Structure

(Source: By Learner)

Gantt chart will be used to plan as well as schedule the different process and tasks of the project. This chart is helpful in evaluating and assessing the time required by the project. It also help to measure the resources will be required and plan the order accordingly for completion of the tasks.

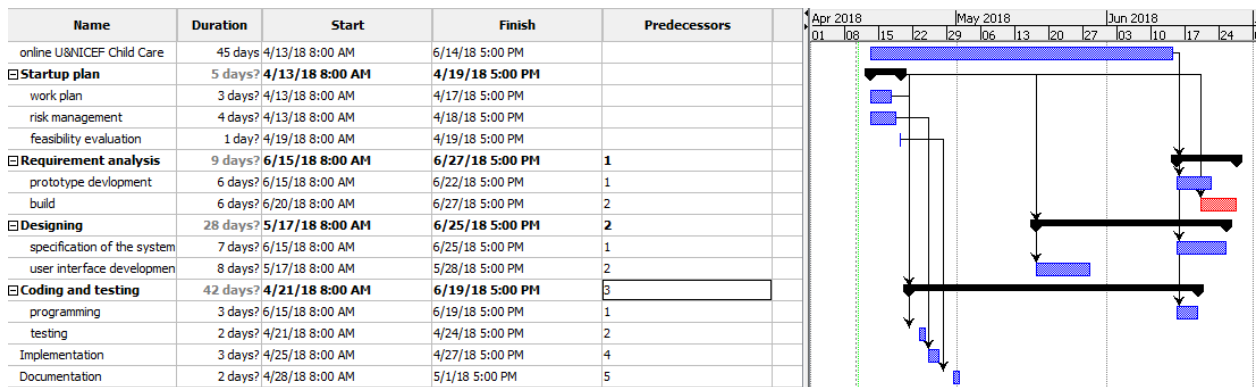


Figure 3: Gantt chart

(Source: By Learner)

Work breakdown structure and Gantt chart have been applied to determine the different tasks involved in the project and time required by the each tasks. An estimated time can be determined required for completion of the entire project.

Task 5 System information requirements investigation techniques

Stakeholders of UNICEF CHILD Care

As explained by Volk *et al.* (2016), stakeholders are the people or group of people associated with organization directly or indirectly. The stakeholders have the capability to influence the decisions, policies and objectives of the organization. Stakeholders of the organization are classified into two types: internal stakeholders and external stakeholder.

Internal stakeholders include

- Employees
- Manger
- Executives
- Board of directors

External stakeholder include

- Customers
- Clients
- Suppliers

Three investigation techniques and their usefulness

Questionnaires

As per Valacich *et al.* (2014), questionnaires are an effective investigation technique for gathering proper information regarding any topic. It comprise of standard questions related to research to investigate the different aspects of the project. Questionnaires are prepared to be distributed when conducting surveys for collecting information.

Usefulness: this technique is simple and easy to undertake. Besides, the cost involved in this investigation method is low and can be conducted through paper or electronically.

Interviews

According to Volk *et al.* (2016), the interview provides opportunity to conduct face to face communication and discussed about the relevant aspect of the project. This technique will be

useful in gathering information from different stakeholders and highlighting their ideas about the project.

Usefulness: It is helpful in gathering primary data related to the project. Data collected in the process are more accurate and reliable.

Observation

As per the belief of Dick *et al.* (2017), the observation is very essential for conducting assessing and analyzing of attributes of the object. The observation technique will be employed to identify the issues and challenges linked with current manual system and will be manifested to develop a more suitable system for the organization.

Usefulness: it is an easy and convenient analysis technique which helps to accurately assess the realistic problems associated with the project.

Reflections and conclusions

As a software consultant for Global Business System, the report is required to contain detailed information regarding planning and managing of system development project for UNICEF Child care. The following report taking into account all the requirements and needs of the UNICEF Child Care. Besides, it also highlights the primary functional as well as non-functional requirements of the project. Work breakdown structure and Gantt chart have been prepared in relation to schedule the different tasks and activities involved in the project. A cost benefit analysis of the project is also performed in this relation to estimate the budget of the organization. Along with that, three investigation techniques have been utilized in the process to develop a suitable online information system, for UNICEF Child Care.

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