# SECD2613 - ANALISIS DAN REKABENTUK SISTEM (SYSTEM ANALYSIS AND DESIGN)

## SESSION 20232024/2

## Assignment 1

NAME     : 1. FADLIN AFINA BT DAUD
         (A23CS0299)
        2. JAYADHANYA A/P VIJAYALINGAM
         (A23CS0092)
        3. NUR AINA SYAFINA BINTI KAMASUAHADI
       (A23CS0152)
        4. WAN NUR RAUDHAH BINTI
         MASZAMANIE (A23CS0195)

GROUP NAME   : BLACKBOX

SECTION     : 01
LECTURER'S NAME : DR. AHMAD NAJMI

DATE                     : 18 APRIL 2024

<u>Question 1</u>

a) how would you assess the feasibility of the systems project Ahmad is proposing?

I would assess the feasibility by studying the operational, technical and economical aspects. This study involves evaluating the current system's performance and user satisfaction, determining the availability of necessary technical resources, and performing a cost-benefit analysis to determine the economic viability of the proposed project.

b) Based on what Abu has said about the managers, users, and systems people, what seems to be the operational feasibility of the proposed project?

Abu's discussions with managers, users, and systems people, suggests that they are satisfied with the current system and do not have significant problems with the current system. Implementing a new system might cause them to resist the change of system and could be disruptive which affects the operational feasibility of this project negatively. Therefore, the operational feasibility of the systems project is low.

c) What about the economic feasibility?

Abu indicates that it could cost big bucks for a new gimmick and considering that Ahmad is insisting for a new system majorly based on his hope to create a better system, hence it is not evident that the benefits of the new system will outweigh the cost and time needed to develop it. The economic feasibility is uncertain.

d) What about the technological feasibility?

Since Abu has confirmed that technology to update their system is out there, the technical feasibility is partially promising. However, the information about the sufficiency of the current resources are not pointed out and Abu seems cautious when he says that something shouldn't be done just because it can be done. Hence, the technological feasibility is only partially possible.

e) Based on what Ahmad and Abu have discussed, would you recommend that a full-blown systems study be done? Discuss your answer in a paragraph.

A thorough systems research would be wise given Ahmad and Abu's differing perspectives about the proposed system redesigning. Abu is worried about possible

disruptions and the suitability of the current system, while Ahmad is focused on upgrading the company's image. A thorough analysis would clarify a new system's advantages and disadvantages, evaluate its feasibility and impacts in detail, and suggest alternative strategies This can guarantee that the decisions taken are aligned with AllFoods' objectives.

Question 2
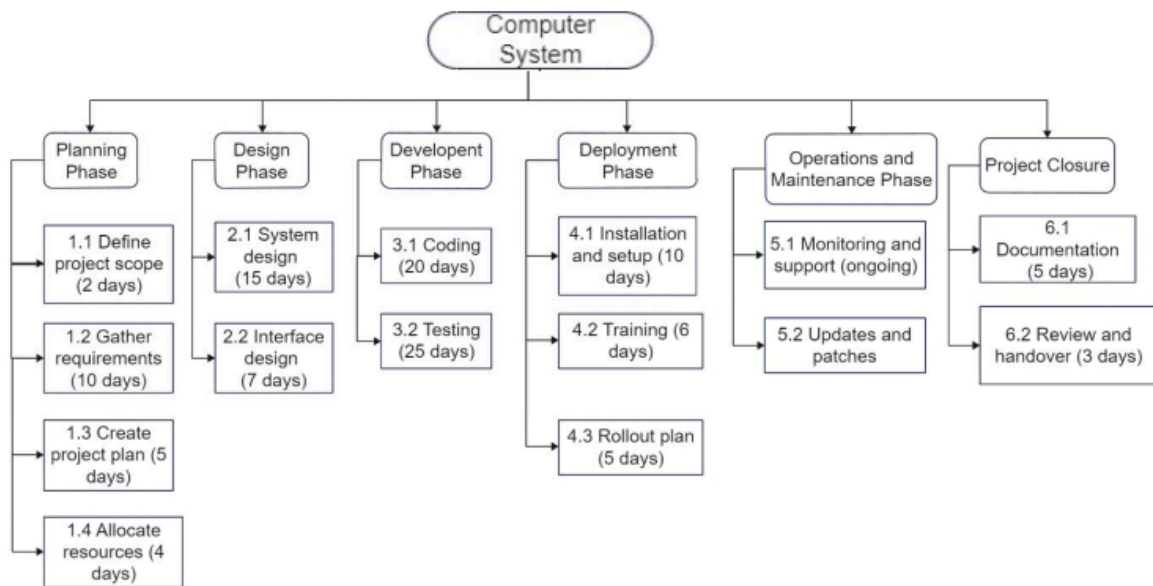


| Task ID | Task Description | Estimated Duration | Predecessor Tasks |
|---------|------------------|--------------------|-------------------|
| **1.0** | Planning Phase | - | - |
| 1.1 | Define Project Scope | 2 days | - |
| 1.2 | Gather Requirement | 10 days | 1.1 |
| 1.3 | Create Project Plan | 5 days | 1.2 |
| 1.4 | Allocate Resources | 4 days | 1.3 |
| **2.0** | Design Phase | - | - |
| 2.1 | System Design | 15 days | 1.4 |
| 2.2 | Interface Design | 7 days | 2.1 |

| 3.0 | Development Phase | - | - |
|---|---|---|---|
| 3.1 | Coding | 20 days | 2.2 |
| 3.2 | Testing | 25 days | 3.1 |
| 4.0 | Deployment Phase | - | - |
| 4.1 | Installation and setup | 10 days | 3.2 |
| 4.2 | Training | 6 days | 4.1 |
| 4.3 | Rollout plan | 5 days | 4.2 |
| 5.0 | Operations and Maintenance Phase | - | - |
| 5.1 | Monitoring and support | ongoing | 4.3 |
| 5.2 | Updates and patches | ongoing | 5.1 |
| 6.0 | Project Closure | - | - |
| 6.1 | Documentation | 5 days | 5.2 |
| 6.2 | Review and handover | 3 days | 6.1 |

        Using a mix of email, chat services like Telegram or WhatsApp, Microsoft Teams, project management software, and other tools is essential to facilitate productive asynchronous communication in distributed teams working in different time zones. By using these tools, team members can respond to and receive information whenever it's convenient for them, which reduces the need for simultaneous internet access. It's crucial to keep aware of time zone differences, however, and refrain from sending urgent messages in the early hours of the morning or night in the respective time zones. Establishing communication norms that respect people's schedules and boundaries and being aware of each other's time zones are crucial for preventing such situations between managers and team members. This could be using features in communication tools that allow messages to be scheduled to be sent at more appropriate times, or it could mean establishing communication guidelines that forbid sending urgent messages outside of regular business hours in the recipient's time zone.

        To accommodate the diverse schedules of team members, it is important to strategically arrange synchronous meetings through the use of online scheduling tools. To make the best use of everyone's time, these meetings should give priority to important issues that call for quick cooperation. Furthermore, a cohesive and productive work environment is encouraged for teams that are of different time zones by ensuring clear expectations, deadlines, and availability schedules as well as by offering training on efficient communication and collaboration tools. Teams could minimise interruptions and maximise productivity across time zones while minimising potential additional costs related to extended hours or more meetings by simplifying meeting schedules and utilising asynchronous communication methods for ongoing discussions.

        One of the most significant differences lies in communication. Traditional projects heavily relied on in-person meetings and conversations within the office. In a distributed agile environment, this luxury is often absent. Asynchronous communication tools like email, chat applications, and project management software become vital. This allows team members to access information and respond on their own schedules, minimizing the need for constant online availability. However, navigating diverse time zones requires a new level of sensitivity.  Managers need to establish clear communication norms that respect people's schedules and boundaries. This could involve utilizing features in communication tools to schedule messages for appropriate times, or even setting guidelines that restrict urgent messages outside of recipient's business hours.

Planning and iteration are also fundamentally different. Traditional projects often had a fixed scope with well-defined deliverables. Agile projects, however, embrace a flexible scope that can adapt to changing requirements. This necessitates managers who are comfortable with ongoing prioritization and potential scope adjustments within each sprint, a short development cycle within the agile methodology.  The focus shifts from a linear approach to iterative cycles. Managers need to facilitate effective sprint planning, monitor progress throughout the sprint, and conduct sprint reviews to evaluate accomplishments and plan for the next iteration.

Teamwork and collaboration also require adaptation.  Traditional projects typically involved co-located teams working in close proximity. Distributed agile teams require a conscious effort to build team spirit and collaboration despite physical separation.  Managers can foster a sense of community and trust by encouraging virtual team-building activities, creating dedicated channels for casual conversation, and ensuring transparent progress updates.

In conclusion, it's critical to communicate in a clear and concise manner in a distributed setting.  In order to prevent miscommunication and guarantee that everyone is in agreement, managers should continue to promote more interaction. Team members can succeed in this particular environment by investing in training on efficient scheduling, active listening, and communication techniques.

Question 4

a) b)

| Costs | Year 0 | Year 1 | Year 2 | Year 3 |
|---|---|---|---|---|
| Development Costs | | | | |
| Hardware | 50 000 | | | |
| Software | 15 000 | | | |
| Consulting | 80 000 | | | |
| Training | 30 000 | | | |
| Data conversion | 40 000 | | | |
| TOTAL | 215 000 | | | |
| Production Costs | | | | |
| Supplies | | 15 000 | 15 000 | 15 000 |
| IS Salaries | | 75 000 | 82 500 | 90 750 |
| Upgrades | | 10 000 | 10 000 | 10 000 |
| Annual Production Costs (Present Value) | | 100 000  74 074 | 107 500  58 985 | 115 750  47046 |
| Accumulated costs | | 289 074 | 348 059 | 395 105 |
| Benefits | | | | |
| Improve Customer Service | | 150 000 | 180 000 | 216 000 |
| Increase productivity | | 150 000 | 187 500 | 234 375 |

| | | | | |
|---|---|---|---|---|
| TOTAL | | 300 000 | 367 000 | 450 375 |
| Present Value | | 222 222 | 201 372 | 183 051 |
| Accumulated Benefits | | 222 222 | 423 594 | 606 645 |
| | | | | |
| Gain or Loss | | (66 852) | 75 535 | 211 540 |
| Profitability Index | 211814 / 215 000 = 0.98 | | | |
| Justification | Showing that it is not good investment because of its index is less than 1 | | | |

# Question 5

a)
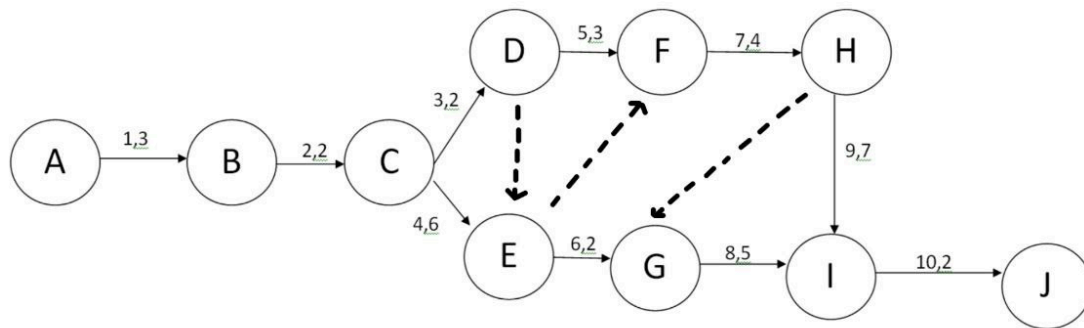


b)

Path 1: 1 - 2 - 3 - 5 - 7 - 9 - 10

Path 2 : 1 - 2 - 4 - 6 - 8 -10

Path 3 : 1 - 2 - 3- 6 - 8 -10

Path 4 : 1 - 2 - 3 - 5 - 7 - 8 - 10

Path 5 : 1 - 2 - 4 - 7 - 9 - 10

c)

Length path 1 : 3 + 2 + 2 + 3 + 4 + 7 + 2 = 23

Length path 2 : 3 + 2 + 6 + 2 + 5 + 2 = 20

Length path 3 : 3 + 2 + 2 + 2 + 5 + 2 = 16

Length path 4 : 3 + 2 + 2 + 3 + 4 + 5 + 2 = 21

Length path 5 : 3 + 2 + 6 + 4 + 7 + 2 = 24

Thus, the critical path is the longest path through the network diagram. Path 5, 1 - 2 - 4 - 7 - 9 - 10, is the critical path for the project.

d)