Software Engineering

Assignment 1

Team: T4

1. **Your customer with proof**

**A black and white stamp with writing and a feather

Description automatically generated**

**Customer :** Almadena Library

**phone number:** +20 106 356 1010

1. **Project requirements**

- Brief about the project:

Desktop application designed for a library to save each transaction made in a day + the expenses in that day. The application will calculate the profit a day and a month

- Requirements:

1 - Easy to understand design

2 - The option to save each day transactions

3 - The option to save each day expenses

4 - Calculating the profit of each day and month

5 - Show the user the amount of money they have right now after entering the initial amount of money at the beginning of the month

1. **Project tasks**

|  |  |
| --- | --- |
| Task | Dependent on |
| Design the interface (T1) | - |
| Design the database (T2) | - |
| Implement the interface (T3) | T1 |
| Implement the database (T4) | T2 |
| Connect the Front-end with the Back-end (T5) | T3, T4 |
| Code the mathematical formulas (T6) | - |
| Apply the mathematical formulas on the user input (T7) | T3, T4, T5, T6 |

1. **Activities network**

*55/3/2024*

Start

*515 days*

*55days*

T6

T2

T1

*510days*

*55days*

*52 days*

T3

T4

*5days*

T5

*2days*

T7

*55/4/2024*

Finish

1. **Estimated cost and time**

* Baseline Cost (A): Let's reduce the initial fixed cost to 2,000 to account for a smaller team and fewer initial expenses.
* Factor (k): Given that it's a small project and team, we can set
* k=1.3 to represent a moderate scaling of costs with project size.
* Exponent (B): We'll assume a linear growth of costs with the complexity of the application, so let's set B=1.
* Additional Factors (m): Again, for simplicity, let's assume no significant additional factors, so m=1.

Cost =2000\*\*1

Cost =2600

1. **Risk analysis**

1. BAD TIMING

probability of occurrence: Moderate

· The time for the project was initially incorrectly calculated and set.

· The project manager does not properly track employees, skills, task status.

2. POOR CODE QUALITY AND TECHNICAL RISKS

probability of occurrence: Moderate

**·** lack of professionalism and knowledge of team members.  
**·** constant changes in software requirements.

3. POOR PRODUCTIVITY

probability of occurrence: High

**·** poor project management.  
**·** incorrectly chosen methodology.

5. POOR MANAGEMENT

probability of occurrence: Low

**·** poor communication and interaction within the team.

6. UNPREDICTABLE EXTERNAL RISKS

probability of occurrence: Moderate

**·** One of the team members becomes ill.

**·** changes in consumer behavior and priorities.