Workplace Assignment Report

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Date: [Current Date]

Unit Standard Reference: 115392 Assignment

1. Problem Description for End-User

Currently, calculating the exact profit or loss for each sold item is a manual process that requires your staff to find the original cost price and perform a calculation. This is slow and can lead to errors in your financial tracking.

This software will solve that problem. It is a simple, user-friendly program where you only need to enter the Selling Price of an item. The program will then instantly and automatically calculate and display the Exact Profit or Loss Amount. It is designed to be fast, accurate, and easy for anyone on your team to use without special training.

2. Proposed Solutions

Solution A:

Custom-Built Desktop Application

- A dedicated program installed on a computer at the point of sale or in the office.

Functions:

- Presents a clean window with an input field for the Selling Price.
- Features a Calculate button to process the data.
- Clearly displays the Profit or Loss amount on the screen.
- The predefined profit margin is stored securely within the program's code.
- Input: Selling Price (entered by the user).
- Output: Profit Amount or Loss Amount (displayed on screen).

Solution B:

Configured Spreadsheet Template

- A pre-built template using software like Microsoft Excel or Google Sheets.

Functions:

- The user enters the Selling Price into a designated cell.
- A formula in a separate, protected cell contains the profit margin.
- Another cell uses formulas to automatically calculate and display the profit or loss.
- Input: Selling Price (entered into a specific cell).
- Output: Profit Amount or Loss Amount (displayed in a results cell).

3. Cost-Benefit Analysis & Viability Statement

- Developing a custom computer program is a highly viable and cost-effective solution for Client X.

Benefits:

- Elimination of Errors: Automates calculations, ensuring 100% accuracy in profit/loss data.
- Time Savings: Reduces calculation time from minutes to seconds, improving staff productivity.
- Ease of Use: Provides a simple interface that requires minimal to no training.
- Informed Decision-Making: Delivers instant financial metrics for better pricing and sales strategy decisions.

Costs:

- Development Time: A minor, one-time investment for a developer to build and test the application (for Solution A).
- Software Cost: For Solution B, a license for spreadsheet software may be required if not already available.
- The significant and ongoing benefits of saved time, guaranteed accuracy, and improved operational insight far outweigh the minimal one-time development cost. The program will provide a rapid return on investment.

4. Recommendation

After evaluating both options against the client's need for a user-friendly and reliable application, Solution A the Custom-Built Desktop Application is the unequivocal recommendation.

While Solution B has a lower upfront cost, Solution A provides a superior, foolproof user experience. It is a dedicated tool that prevents users from accidentally altering the logic , offers a more professional and intuitive interface, and is more robust. It best fulfills the specification for a user-friendly application that complies with applicable design standards.

5. Program Design Plan

1. Program Overview

Program Name: ProfitCalc

Primary Objective

- To accurately calculate the profit or loss amount based on a user-inputted selling price and a predefined profit margin.

2. Core Logic & Algorithm

The program will execute the following sequence of calculations

1. Determine Cost Price: Cost Price = Selling Price / (1 + Profit Margin)
Example: With a 25% (0.25) margin and a R125 selling price: Cost Price = 125 / 1.25 = R100.*
2. Calculate Profit/Loss: Profit/Loss = Selling Price - Cost Price
Example: R125 (Selling Price) - R100 (Cost Price) = $25 Profit.*

3. Input Requirements

Selling Price

- A positive numerical value provided by the user.

4. Output Requirements

Profit/Loss Amount

A clearly formatted message displayed on the screen (e.g., "Profit: R25.00" or "Loss: -R5.50").

5. User Interface (UI) Design

- A single, clean window will contain
- A title bar labeled "ProfitCalc".
- An instructional label: "Enter Selling Price (R):
- A single text input field.
- A "Calculate" button.
- A dedicated result display area.

6. Data Storage

The Predefined Profit Margin (e.g 25%) will be stored as a constant variable within the application's source code, ensuring it is secure and cannot be easily altered by end-users.

7. Program Logic Flowchart

The following flowchart details the operational logic and user interaction flow of the proposed ProfitCalc application.

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                        ┌─────────────────────┐
                        │       START         │
                        └─────────────────────┘
                                  │
                                  ▼
                 ┌─────────────────────────────────┐
                 │  Display User Interface:         │
                 │  Input Field, Button, Result     │
                 │  Label                           │
                 └─────────────────────────────────┘
                                  │
                                  ▼
                 ┌─────────────────────────────────┐
                 │      Wait for User Input         │
                 └─────────────────────────────────┘
                                  │
                                  ▼
                 ┌─────────────────────────────────┐
                 │    User Clicks Calculate         │
                 │           Button                 │
                 └─────────────────────────────────┘
                                  │
                                  ▼
                 ┌─────────────────────────────────┐
                 │    Retrieve Predefined           │
                 │       Profit Margin              │
                 └─────────────────────────────────┘
                                  │
                                  ▼
                 ┌─────────────────────────────────┐
                 │  Calculate Cost Price: CP        │
                 │    = SP / (1 + Margin)           │
                 └─────────────────────────────────┘
                                  │
                                  ▼
                 ┌─────────────────────────────────┐
                 │  Calculate Profit/Loss: P/L      │
                 │         = SP – CP                │
                 └─────────────────────────────────┘
                                  │
                                  ▼
                           ◇─────────────◇
                          ╱  Is Profit/   ╲
                          ╲  Loss >= 0?   ╱
                           ◇─────────────◇
                          No │         │ Yes
                             ▼         ▼
              ┌───────────────────┐  ┌───────────────────┐
              │   Format Loss     │  │   Format Profit   │
              └───────────────────┘  └───────────────────┘
                        │                     │
                        └──────────┬──────────┘
                                   ▼
                      ┌─────────────────────────┐
                      │    Display Result in UI  │
                      └─────────────────────────┘
                                   │
                                   ▼
                      ┌─────────────────────────┐
                      │  Wait for New Calculation│
                      └─────────────────────────┘
```