

**Chirayu Batra**

**21BCE5756**

This assignment is done with my project partner, *Jay Khania (21BCE1394)*.

## **Ex.No. 2(a)**

**Title – Gantt Chart for our project.**

**Date:** 2 May, 2023

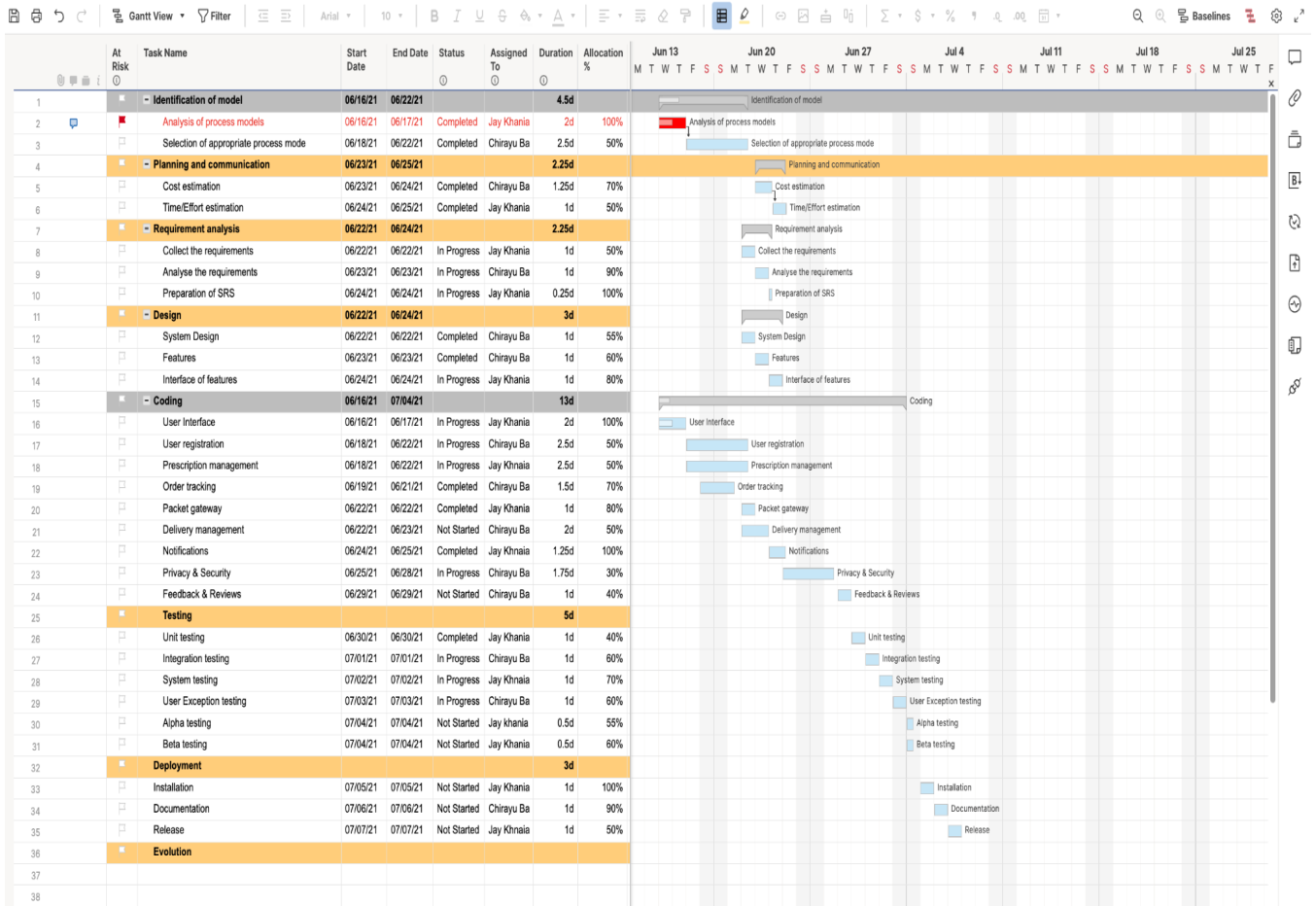
**Aim :**

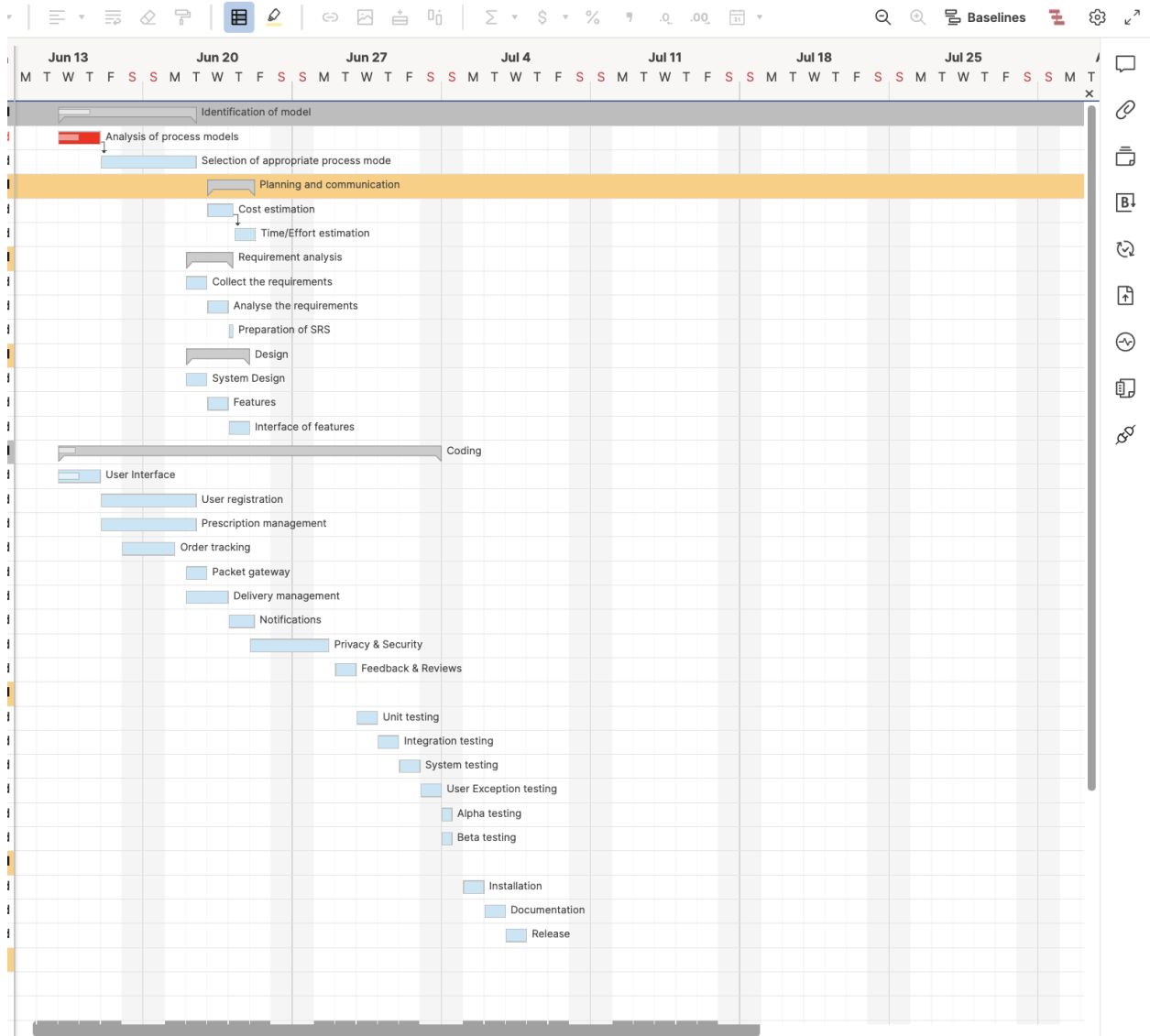
To draw Gantt Chart for “ Medicine Delivery App”.

**Description:**

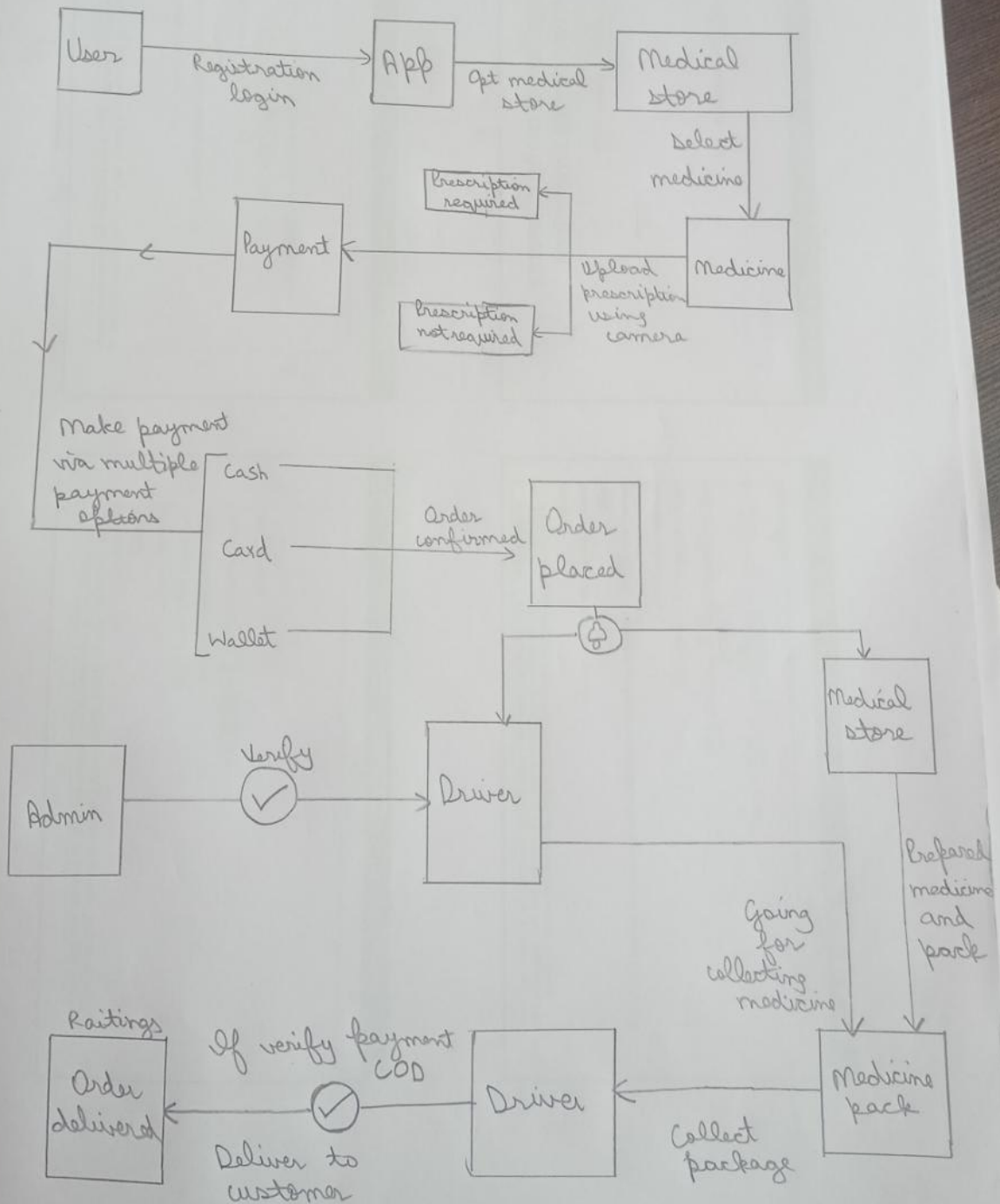
This Gantt Chart shows the timelines of various tasks and subtasks of our project regarding ‘Medicine Delivery App’. The dates and time assigned to individual tasks and the people in the team who are being assigned are being pictorially represented. The basic structure of the Gantt Chart contains the duration of each task and under that the duration of each subtasks in a histogram format.

**Output:**





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**Result :** Thus the Gantt chart is designed for planning the timeline of various activities for the project “ Medicine Delivery App”.

## **Ex.No. 2(b)**

**Title – Work Breakdown structure(WBS) for our project.**

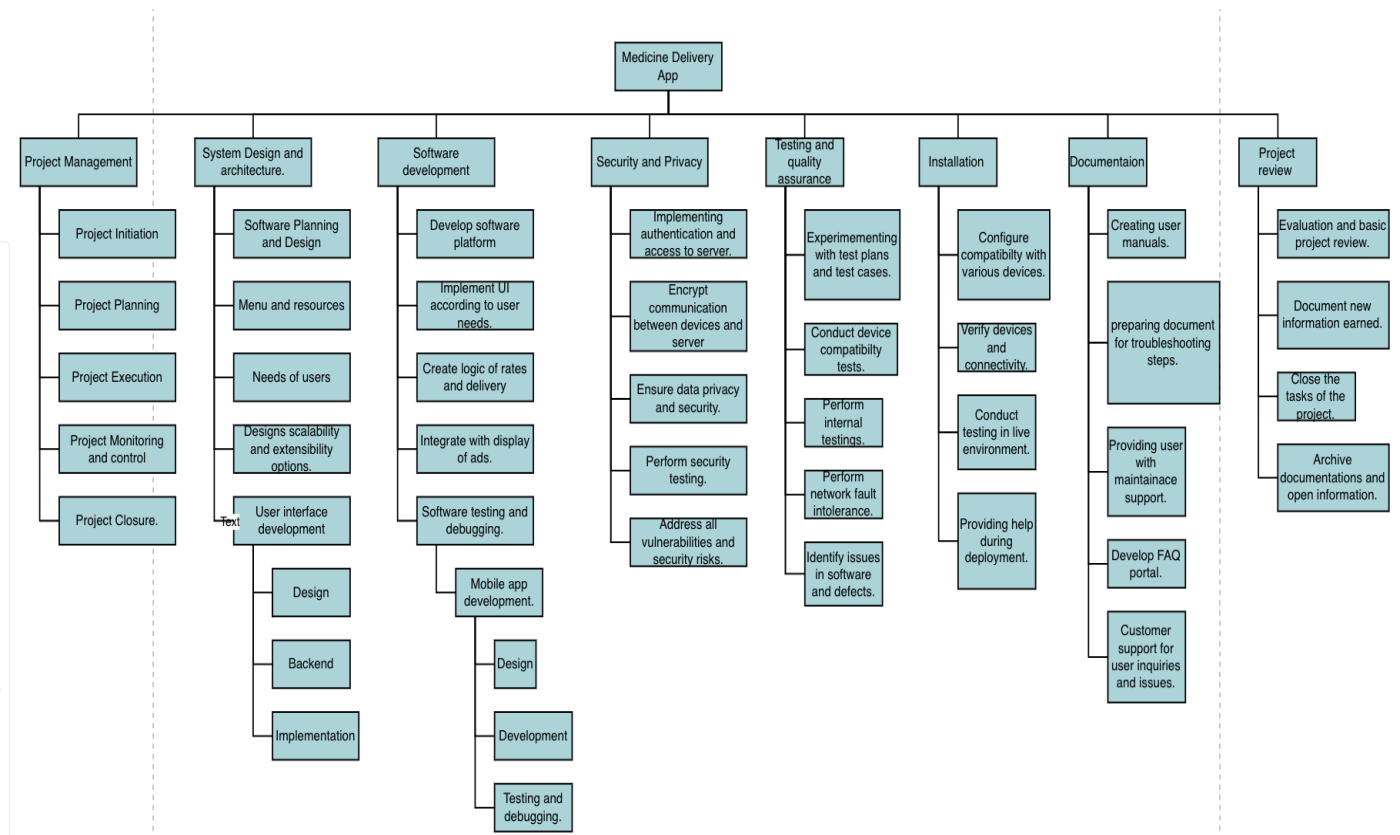
### **Aim:**

To draw Work breakdown structure - role based for “ Medicine Delivery App”.

### **Description:**

A Work Breakdown Structure (WBS) is a method of breaking down a project or deliverable into smaller, more manageable components. The WBS provides a framework for organizing, planning, and controlling project activities, representing the work that must be completed to finish the project. The WBS is usually presented as a hierarchical chart or tree structure, with the highest level representing the project or deliverable and subsequent levels breaking down the work into smaller components. Each element in the WBS should be well-defined, mutually exclusive, and collectively exhaustive to ensure that all project work is accounted for. The WBS enables better project planning, resource allocation, and control by breaking the project into manageable pieces, allowing project managers to effectively execute complex projects. It is also a foundation for other project management processes such as scheduling, cost estimation, risk management, and quality control, promoting a structured and systematic approach to project execution.

### **Output:**



### Result:

Thus the work breakdown structure is designed for planning the timeline of various activities for the project “Medicine Delivery App”.

## Ex.No. 2(c)

Title – FP based estimation for our project.

**Date:** 13 May, 2023

**Aim :**

To do FP based Estimation for “ Medicine Delivery App”.

**Description:**

FP-based cost estimation is a technique used to predict the effort, cost, and resources needed for software development projects. It relies on function points to quantify the software's functionality, which is determined by the inputs, outputs, inquiries, and data files it processes. FP-based cost estimation is useful because it provides a standardized and objective approach that facilitates comparison across different projects, making resource planning, budgeting, and project scheduling easier. However, it is crucial to note that FP-based cost estimation is subject to assumptions and historical data, and its accuracy is dependent on the quality of the function point analysis and the productivity factor used. To improve the accuracy of the estimation, other factors such as project complexity, technology factors, team experience, and environmental constraints must be considered and factored in.

**Output:**



**Domain Characteristic Table**

MEASUREMENT PARAMETER	COUNT (value >= 0)	WEIGHTING FACTOR		
		Simple	Average	Complex
Number of User Input	<input type="text" value="21"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Number of User Outputs	<input type="text" value="16"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Number of User Inquiries	<input type="text" value="14"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Number of Files	<input type="text" value="9"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Number of External Interfaces	<input type="text" value="14"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

[Complexity Adjustment Table](#) | [FP Calculation](#)



## Complexity Adjustment Table

ITEM	COMPLEXITY ADJUSTMENT QUESTIONS	SCALE					
		No Influence 0	1	2	3	4	Essential 5
1	Does the system require reliable backup and recovery?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
2	Are data communications required?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
3	Are there distributed processing functions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Is performance critical?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
5	Will the system run in an existing, heavily utilized operational environment?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Does the system require on-line data entry?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
7	Does the on-line data entry require the input transaction to be built over multiple screens or operations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
8	Are the master files updated on-line?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
9	Are the inputs, outputs, files or inquiries complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
10	Is the internal processing complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
11	Is the code to be designed reusable?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
12	Are conversion and installation included in the design?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	Is the system designed for multiple installations in different organizations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	Is the application designed to facilitate change and ease of use by the user?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Domain Characteristic Table](#) | [FP Calculation](#)

## FP Calculation

NOTE: For any updates made on any of the entries, always click the 'Calculate Function Points' button to recalculate function points value.

[Reset / Clear all form entries](#)

[Calculate Function Points](#)

RESULT	
PROJECT FUNCTION POINTS	627.6000000000001

[Top of Page](#) | [Domain Characteristic Table](#) | [Complexity Adjustment Table](#)

Harvey Roy Divinagracia  
October 2000

**Result:**

Thus the FP based Estimation is done for planning the timeline of various activities for the project “Medicine Delivery App” and Project Function Point is coming as 627.600000000001.

## EX-2d

**Title** - COCOMO based COST Estimation for our project.

**Date:** 14 May, 2023

**Aim :**

To do COCOMO based cost Estimation for “Medicine Delivery App”.

**Description:**

COCOMO is a software cost estimation model developed by Barry Boehm in the 1980s. It employs a set of equations and factors to calculate the effort, cost, and duration of software development projects based on various project characteristics. COCOMO estimation provides a structured and systematic approach to estimating software development effort and cost, which helps with project planning, resource allocation, budgeting, and risk management. However, it is important to note that COCOMO estimation is based on assumptions and historical data. As such, the accuracy of the estimation depends on the quality of the size estimation, the relevance of the cost drivers used, and the quality of the historical data available. To improve accuracy, it is recommended to calibrate and adjust the estimation using project-specific factors and expert judgment.

**Output:**

## Information Domain Values

Measurement Parameter	Count		Simple <input type="radio"/>	Average <input type="radio"/>	Complex <input checked="" type="radio"/>		Total
Number of user inputs	<input type="text" value="21"/>	X	3	4	6	=	<input type="text" value="126.00"/>
Number of user outputs	<input type="text" value="16"/>	X	4	5	7	=	<input type="text" value="112.00"/>
Number of user inquiries	<input type="text" value="14"/>	X	3	4	6	=	<input type="text" value="84.00"/>
Number of files	<input type="text" value="9"/>	X	7	10	15	=	<input type="text" value="135.00"/>
Number of external interfaces	<input type="text" value="14"/>	X	5	7	10	=	<input type="text" value="140.00"/>
Count=Total							<input type="text" value="597.00"/>

Count Total

### Complexity Weighting Factors

// heading of the second table Rate each factor on a scale of 0 to 5:

(0 = No influence, 1 = Incidental, 2 = Moderate, 3 = Average, 4 = Significant, 5 = Essential):

Question	0	1	2	3	4	5
1. Does the system require reliable backup and recovery?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
2. Are data communications required?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
3. Are there distributed processing functions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is performance critical?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
5. Will the system run in an existing, heavily utilized operational environment?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Does the system require on-line data entry?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
7. Does the on-line data entry require the input transaction to be built over multiple screens or operations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
8. Are the master file updated on-line?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
9. Are the inputs, outputs, files, or inquiries complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
10. Is the internal processing complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
11. In the code designed to be reusable?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
12. Are conversion and installation included in the design?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Is the system designed for multiple installations in different organizations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Is the application designed to facilitate change and ease of use by the user?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total						
<input type="text" value="55.00"/>						

Show Total of weighting Factor

The Function Points is:

Show Function Points

Programming Language	LOC/FP (average)	Select
Assembly Language	320	<input type="radio"/>
C	128	<input type="radio"/>
COBOL	105	<input type="radio"/>
Fortran	105	<input type="radio"/>
Pascal	90	<input type="radio"/>
Ada	70	<input type="radio"/>
Object-Oriented Languages	30	<input checked="" type="radio"/>
Fourth Generation Languages (4GLs)	20	<input type="radio"/>
Code Generators	15	<input type="radio"/>
Spreadsheets	6	<input type="radio"/>
Graphical Languages (icons)	4	<input type="radio"/>

**LOC/FP:**

Show LOC/FP

21492.00

Software Project	$a_b$	$b_b$	$c_b$	$d_b$	Select
Organic	2.4	1.05	2.5	0.38	<input type="radio"/>
Semi-detached	3.0	1.12	2.5	0.35	<input checked="" type="radio"/>
Embedded	3.6	1.20	2.5	0.32	<input type="radio"/>

Calculate Effort and Duration

Effort (E) =  $a_b(KLOC)^{b_b}$  = 93.17

Duration (D) =  $c_b(E)^{d_b}$  = 12.22

Reset Data

### Result:

Thus the COCOMO based cost Estimation is done for planning the timeline of various activities for the project " Medicine Delivery App" .