

# **SOFTWARE ENGINEERING LAB-3**

## **TASK-3**

### **G5**

## **SPRINTS & ESTIMATION**

### **->SPRINT-1: Basic Setup, User Login & Registration**

#### **-User Stories**

- As an Organisation, I want to register and log in so that I can manage my resources and solve crises.
- As a volunteer, I want to register myself by entering my skills and availability on the platform so that I can be assigned to crises where my expertise is needed.
- As an admin, I want to manage user accounts so that I can add, remove, or modify user permissions and ensure that only authorized personnel have access to sensitive information.

### **->SPRINT-2: Crisis Reporting, Incident Dashboard & Location Services**

#### **-User Stories**

- As an affected person, I want to report a crisis with details like location, severity, and description, so that I can receive timely assistance.
- As a member of the general public, I want to see the incident dashboard so that I can view all the crises reported.

- As an Organisation, I want to see the exact location of the crisis so that I can quickly locate and respond.

### **->SPRINT-3: Resource and Volunteer Management**

#### **-User Stories**

- As an Organisation, I want to allocate resources to a crisis so that I can effectively respond and help mitigate the impact of the situation.
- As an Organisation, I want to manage my resources so that I can ensure optimal utilization, track resource availability, and allocate them effectively to support crisis response efforts.
- As a volunteer, I want to be able to join any NGOs so that I can deliver and make use of the resources to help the crisis.

### **->SPRINT-4: Volunteer Task Management and Safety Guidelines Page**

#### **-User Stories**

- As an Organisation, I want to be able to publish tasks while responding to crises so that I can assign duties and monitor progress effectively.
- As a Volunteer, I want to accept tasks so that I can fulfil my duties and effectively respond to crises.
- As a member of the general public, I want to see the safety guidelines for all crises so that I can take precautions and follow instructions during guidelines.

### **->SPRINT-5: Donation/Crowdfunding, Enhancement of UI/UX, Bug Fixes**

### **-User Stories**

- As a member of the general public, I want to donate to NGOs responding to crises so that I can support their relief efforts.
- As a member of the general public, I need a good UI so that I can easily navigate and find information during crises.

### **->SPRINT-6: Feedback and other Extra/Advanced Features**

#### **-User Stories**

- As an affected person, I want to provide feedback on the assistance I received so that the quality of response can be evaluated.
- As an Organisation, I want to receive notifications about new crises so that I can mobilize my resources and volunteers to respond effectively.
- As an admin, I want to view the feedback given by the affected people so that I can ensure and maintain the quality of the response.
- As an admin, I want to remove false or redundant crisis reports from the dashboard so that I can ensure the information displayed is accurate and relevant for effective response and management.
- As an Organisation, I want to view a map showing the locations of all reported crises so that I can better allocate resources.

### Function Point Estimation For Sprint 1

	Complexity			
Description	Low	Medium	High	Total
Inputs	3x 3	4x 4	0x 6	25
Outputs	4x 4	0x 5	0x 7	16
Queries	0 x 3	0 x 4	0 x 6	0
Files	0x 7	0x 10	0x 15	0
Program Interfaces	0 x 5	0 x 7	0 x 10	0

Total Unadjusted Function Points (TUFp): 41

(0=no effect on processing complexity; 5=great effect on processing complexity)

	0-5
Data communications	3
Heavily use configuration	2
Transaction rate	3
End-user efficiency	4
Complex processing	4
Installation ease	4
Multiple sites	2
Performance	2
Distributed functions	3
On-line data entry	3
On-line update	4
Reusability	4
Operational ease	3
Extensibility	3

Processing Complexity (PC): 40

Adjusted Processing Complexity (PCA) =  $0.65 + (0.01 * 40)$

Total Adjusted Function Points (TAFP):  $1.05 * 41 =$

43.05

Estimated Time (Assuming 3FPs per person per week) =  $43/(3*10)$   
=1.5 weeks

## Function Point Estimation For Sprint 2

	Complexity			
Description	Low	Medium	High	Total
Inputs	0 x 3	1 x 4	0 x 6	4
Outputs	1 x 4	1 x 5	0 x 7	9
Queries	0 x 3	1 x 4	0 x 6	4
Files	1 x 7	0 x 10	0 x 15	7
Program Interfaces	1 x 5	0 x 7	0 x 10	5

Total Unadjusted Function Points (TUFPP): 29

(0=no effect on processing complexity; 5=great effect on processing complexity)

	0-5
Data communications	3
Heavily use configuration	1
Transaction rate	3
End-user efficiency	4
Complex processing	2
Installation ease	2
Multiple sites	3
Performance	4
Distributed functions	3
On-line data entry	4
On-line update	4
Reusability	2
Operational ease	4
Extensibility	3

Processing Complexity (PC): 42

Adjusted Processing Complexity (PCA) =  $0.65 + (0.01 * 42)$

Total Adjusted Function Points (TAFP):  $1.07 * 29 = \boxed{31.03}$

Estimated Time (Assuming 3FPs per person per week) =  $31/(3*10)$   
=1 week

### Function Point Estimation For Sprint 3

	Complexity			
Description	Low	Medium	High	Total
Inputs	1 x 3	2 x 4	x 6	<u>11</u>
Outputs	2 x 4	1 x 5	x 7	<u>13</u>
Queries	1 x 3	x 4	___ x 6	<u>3</u>
Files	1 x 7	1 x 10	x 15	17
Program Interfaces	___ x 5	___ x 7	___ x 10	___

Total Unadjusted Function Points (TUFp): 44

(0=no effect on processing complexity; 5=great effect on processing complexity)

	0-5
Data communications	4
Heavily use configuration	3
Transaction rate	3
End-user efficiency	4
Complex processing	2
Installation ease	2
Multiple sites	2
Performance	4
Distributed functions	4
On-line data entry	3
On-line update	3
Reusability	4
Operational ease	<u>3</u>
Extensibility	4

Processing Complexity (PC): 45

Adjusted Processing Complexity (PCA) =  $0.65 + (0.01 * 45)$

Total Adjusted Function Points (TAFP): 1.1 \* 44 =

**48.4**

Estimated Time (Assuming 3FPs per person per week) =  $48/(3*10)$   
=1.5 weeks

### Function Point Estimation For Sprint 4

	Complexity			
Description	Low	Medium	High	Total
Inputs	3 x 3	1 x 4	0 x 6	13
Outputs	2 x 4	1 x 5	0 x 7	13
Queries	1 x 3	0 x 4	0 x 6	03
Files	0 x 7	1 x 10	0 x 15	10
Program Interfaces	0 x 5	0 x 7	0 x 10	0

Total Unadjusted Function Points (TUFPP): 39

(0=no effect on processing complexity; 5=great effect on processing complexity)

	0-5
Data communications	1
Heavily use configuration	0
Transaction rate	3
End-user efficiency	4
Complex processing	1
Installation ease	0
Multiple sites	2
Performance	4
Distributed functions	1
On-line data entry	4
On-line update	4
Reusability	3
Operational ease	4
Extensibility	3

Processing Complexity (PC): 34

Adjusted Processing Complexity (PCA) =  $0.65 + (0.01 * 34)$

Total Adjusted Function Points (TAFP):  $0.99 * 39 = \boxed{38.61}$

Estimated Time (Assuming 3FPs per person per week) =  $39/(3*10)$   
=1.5 weeks

### Function Point Estimation For Sprint 5

	Complexity			
Description	Low	Medium	High	Total
Inputs	1 x 3	1 x 4	0 x 6	7
Outputs	1 x 4	0 x 5	0 x 7	4
Queries	0 x 3	0 x 4	0 x 6	0
Files	0 x 7	1 x 10	0 x 15	10
Program Interfaces	0 x 5	0 x 7	1 x 10	10

Total Unadjusted Function Points (TUFp): 32

(0=no effect on processing complexity; 5=great effect on processing complexity)

	0-5
Data communications	4
Heavily use configuration	2
Transaction rate	3
End-user efficiency	4
Complex processing	1
Installation ease	1
Multiple sites	2
Performance	4
Distributed functions	3
On-line data entry	4
On-line update	5
Reusability	2
Operational ease	3
Extensibility	4

Processing Complexity (PC): 42

Adjusted Processing Complexity (PCA) =  $0.65 + (0.01 * 42)$

Total Adjusted Function Points (TAFP): 1.07 \* 32 =

**34.24**

Estimated Time (Assuming 3FPs per person per week) =  $34/(3*10)$   
=1 week



### Function Point Estimation For Sprint 6

	Complexity			
Description	Low	Medium	High	Total
Inputs	1 x 3	0 x 4	0 x 6	3
Outputs	2 x 4	1 x 5	0 x 7	13
Queries	0 x 3	2 x 4	0 x 6	8
Files	1 x 7	0 x 10	0 x 15	7
Program Interfaces	1 x 5	0 x 7	0 x 10	5

Total Unadjusted Function Points (TUFP): 36

(0=no effect on processing complexity; 5=great effect on processing complexity)

	0-5
Data communications	3
Heavily use configuration	2
Transaction rate	3
End-user efficiency	4
Complex processing	3
Installation ease	2
Multiple sites	3
Performance	4
Distributed functions	4
On-line data entry	4
On-line update	4
Reusability	3
Operational ease	4
Extensibility	3

Processing Complexity (PC): 46

Adjusted Processing Complexity (PCA) =  $0.65 + (0.01 * 46)$

Total Adjusted Function Points (TAFP):  $1.11 * 36 =$

**40**

Estimated Time (Assuming 3FPs per person per week) =  $40/(3*10)$   
=1.5 weeks

**-Total Estimated FPs for the Project: 235**

**-Total Estimated Time for the Project: 8 weeks**