**Estimate the total number of test cases:**

There is a strong relationship between the number of test cases and the number of function points. So in order to determine the function point count human judgment is necessary at certain stages of the process. The number of acceptance test cases can be estimated by multiplying the number of function points by 1.2.

http://www.softwaremetrics.com/images/defect1.gif

**Five standard "functions" are:**

1. Data Functions:
   1. Internal logical files
   2. External interface files
2. Transactional Functions:
   1. External Inputs
   2. External Outputs
   3. External Inquiries

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | Simple | Average | Complex | Function Points |
| External logical file | **0** | **0** | **0** | 0 + 0 + 0 = 0 |
| External Interface files | **0** | **0** | **10** x *5* = 50 | 0 + 0 + 50 = 50 |
| External Outputs | **0** | **0** | **7** x 5 = 35 | 0 + 0 + 35 = 35 |
| External  Inputs | **0** | **0** | **21** x 5 = 105 | 0 + 0 + 105 = 105 |
| External Inquiries | **0** | **0** | **0** | 0 + 0 + 0 = 0 |
|  |  |  | **Total Raw Function Points** | 190 |

**The number of the test cases: 1.2 \* 190 = 228**

|  |  |
| --- | --- |
| **Appendix A** | **External interface files** |
| 1. System shows the Crisis Information Page with the map after manager selects the active crisis from the list.(EI) 2. System shows information and options for the incident after manager selects the active incident from the list.(EI) 3. System navigates to Managers Registration page after the manager selects ‘Manager’ as user type.(EI) 4. System navigates to Volunteer Registration page after the manager selects ‘Volunteer’ as user type.(EI) 5. System generates the Crisis information report refer to **Crisis information report** use case.(EI) 6. System generates the Progress report refers to **Progress report** use case. 7. System generates the Resource Utilization report refers to **Resource Utilization** **report** use case.(EI) 8. Manager finds volunteer refer to **Search Volunteers use-case**.(EI) 9. System shows the report information and Shows location on the map using **Show map use-case of GIS system**.(EI) 10. System shows the map of the location entered and a pointer at the place on map using use-case **Show map** of **GIS system** after Manager enters the name of a location.(EI) | |

|  |  |
| --- | --- |
| **Appendix B** | **External Outputs** |
| 1. Manager enters the message for the volunteers, and the system sends it. 2. System generates a list of volunteers selected. 3. System shows Volunteers’ Incident Report 4. System shows Incident Information. 5. Volunteer gets alert from the system 6. System shows all information about the crisis 7. System shows the map of the location entered and a pointer at the place on map using use-case **Show map** of **GIS system.** | |

|  |  |
| --- | --- |
| **Appendix C** | **External Inputs** |
| 1. Manager creates crisis by inserting needed information. 2. Manager edits crisis by adding or removing information. 3. Manager creates incident by inserting its information. 4. Manager edits incident by adding or removing information. 5. Manager creates request by filling its form. 6. Manager edits request by adding or removing information. 7. Volunteer answer the request. 8. Manager fills the login page. 9. Volunteer fills login form. 10. Manager enters required information for registration. 11. Volunteer enters required information for registration. 12. Volunteer edits his/her information. 13. System generates the Crisis information report refers to **Crisis information report** use case. 14. Volunteer fills the incident report form. 15. Manager enters the message for the volunteers, and the system sends it. 16. Volunteer fills the incident report form. 17. Volunteer fills the profile login page 18. Manager changes any one of his/her information. 19. Crisis information report is created by the manager 20. Progress report is created by the manager 21. Resource Utilization report is created by the manager | |

**Definition:**

**Data Function Definitions**

* IFPUG defines an internal logical file (ILF) as a user-identifiable group of logically related data or control information maintained within the boundary of the application. The primary intent of an ILF is to hold data maintained through one or more elementary processes of the application being counted.
* IFPUG defines an external interface file as a user-identifiable group of logically related data or control information referenced by the application but maintained within the boundary of a different application. The primary intent of an EIF is to hold data referenced through one or more elementary processes within the boundary of the application counted. An EIF counted for an application must be in an ILF in another application.
* **Transaction Functions - External Inputs (EI's)**
* An external input (EI) is an elementary process that processes data or control information that comes from outside the application boundary.
* Examples of EIs include:
* Data entry by users.
* Data or file feeds by external applications

**Transaction Functions - External Outputs (EO's)**

* An external output (EO) is an elementary process that sends data or control information outside the application boundary.
* EO examples include:
* Reports created by the application being counted, where the reports include derived information.

**Transaction Functions - External Inquiries (EQ's)**

* An external inquiry (EQ) is an elementary process that sends data or control information outside the application boundary.
* Examples of EQs include:
* Reports created by the application being counted, where the report does not include any derived data.
* Other things known as "implied inquiries", which unfortunately, are a little out of scope for this paper.

References:

<http://www.softwaremetrics.com/Articles/defects.htm>

<http://devdaily.com/FunctionPoints/>