## 0.1 Project Size

The purpose of this section is to estimate Function Points to give an estimation of the project size. We will use this Size Estimation Procedure:

- Determine the function counts by type: Count the number of functions for each Function Type.
- Determine the complexity level for each Function Type.
- Apply weights to the Function Types.
- Compute the Function Points for each Function Type.

Each subsection will take in account a different User Function Type. User Function Types are described in the following table:

| External Input (Inputs)               | Count each unique user data or user control input type that (i) enters the external boundary of the software system being measured and (ii) adds or changes data in a logical internal file.   |  |
|---------------------------------------|--|--|
| External Output (Outputs)             | Count each unique user data or control output type that leaves the external boundary of the software system being measured.  |  |
| Internal Logical File<br>(Files)      | Count each major logical group of user data or control information in the software system as a logical internal file type. Include each logical file (e.g., each logical group of data) that is generated, used, or maintained by the software system. |  |
| External Interface Files (Interfaces) | <b>rface Files</b> Files passed or shared between software systems should be counted as external interface file types within each system   |  |
| External Inquiry (Queries)            | Count each unique input-output combination, where an input causes and generates an immediate output, as an external inquiry type.  |  |

Table 1: Function Types

To determine the complexity level of each Function Type, it's used the following tables:

| For ILF and EIF |               |         |         |  |
|-----------------|---------------|---------|---------|--|
| Record          | Data Elements |         |         |  |
| Elements        | 1 - 19        | 20 - 50 | 51+     |  |
| 1               | Low           | Low     | Average |  |
| 2 - 5           | Low           | Average | High    |  |
| 6+              | Average       | High    | High    |  |

Table 2: External Inputs and External Interface Files complexity distribution

| Weights                  |                   |         |      |  |  |
|--------------------------|-------------------|---------|------|--|--|
| Function Type            | Complexity-Weight |         |      |  |  |
| Function Type            | Low               | Average | High |  |  |
| Internal Logical Files   | 7                 | 10      | 15   |  |  |
| External Interface Files | 5                 | 7       | 10   |  |  |
| External Inputs          | 3                 | 4       | 6    |  |  |
| External Outputs         | 4                 | 5       | 7    |  |  |
| External Inquiries       | 3                 | 4       | 6    |  |  |

Table 5: Function Types Weights

| For EO and EQ |               |         |         |  |
|---------------|---------------|---------|---------|--|
| Record        | Data Elements |         |         |  |
| Elements      | 1 - 5         | 6 - 19  | 20+     |  |
| 0 or 1        | Low           | Low     | Average |  |
| 2 - 3         | Low           | Average | High    |  |
| 4+            | Average       | High    | High    |  |

Table 3: External Output and External Inquiries complexity distribution

| For El   |               |         |         |  |
|----------|---------------|---------|---------|--|
| Record   | Data Elements |         |         |  |
| Elements | 1 - 4         | 5 - 15  | 16+     |  |
| 0 or 1   | Low           | Low     | Average |  |
| 2 - 3    | Low           | Average | High    |  |
| 3+       | Average       | High    | High    |  |

Table 4: External Inputs complexity distribution

To determine the weights for each Function type, the following table has been used (for each Function Type, a weight is assigned):

- 0.1.1 Internal Logical Files
- 0.1.2 External Interface Files
- 0.1.3 External Inputs
- 0.1.4 External Inquiries
- 0.1.5 External Outputs
- 0.1.6 Computation of Unadjusted Function Points
- 0.1.7 Fixing Unadjusted Function Points