### **Specifying Functional Requirements**

Functional requirements should define the fundamental actions that must take place in the software in accepting and processing the inputs and in processing and generating the outputs. Based on your project select one of the templates and specify the functional requirements.

Templates for specifying functions

### 3.1 <Function-Name>

|  |  |
| --- | --- |
| **Function Description** | Brief description of function |
| **Function Input** | List the sequence of user actions that invokes this function |
| **Function Output** |  |
| **Precondition** | Before the function can be called the state of system. |
| **Process** | The intended Action of this function |
| **Other** | Any other detail |

### If mapping use-cases to functionalities

### 3.2 <Function-Name>

|  |  |
| --- | --- |
| **Use Case Name** | <same as function name> |
| **XRef** | Refer to use case in previous section (2.2..) |
| **Trigger** | When the function is executed |
| **Precondition** | Before the function can be called the state of sytem. |
| **Basic Path** | How the function is called and the action taken |
| **Alternative Paths** | If there are any alternative paths list them here. |
| **Postcondition** | The output of the function |

Sample: Web publishing system project - function

### 3.2.1 Search Article

|  |  |
| --- | --- |
| **Use Case Name** | Search Article |
| **XRef** | Section 2.2.1, Search Article  SDD, Section 7.1 |
| **Trigger** | The Reader assesses the Online Journal Website |
| **Precondition** | The Web is displayed with grids for searching |
| **Basic Path** | 1. The Reader chooses how to search the Web site. The choices are by Author, by Category, and by Keyword. 2. If the search is by Author, the system creates and presents an alphabetical list of all authors in the database. In the case of an article with multiple authors, each is contained in the list. 3. The Reader selects an author. 4. The system creates and presents a list of all articles by that author in the database. 5. The Reader selects an article. 6. The system displays the Abstract for the article. 7. The Reader selects to download the article or to return to the article list or to the previous list. |
| **Alternative Paths** | In step 2, if the Reader selects to search by category, the system creates and presents a list of all categories in the database.   1. The Reader selects a category. 2. The system creates and presents a list of all articles in that category in the database. Return to step 5.   In step 2, if the Reader selects to search by keyword, the system presents a dialog box to enter the keyword or phrase.   1. The Reader enters a keyword or phrase. 2. The system searches the Abstracts for all articles with that keyword or phrase and creates and presents a list of all such articles in the database. Return to step 5. |
| **Postcondition** | The selected article is downloaded to the client machine. |
| **Exception Paths** | The Reader may abandon the search at any time. |
| **Other** | The categories list is generated from the information provided when article are published and not predefined in the Online Journal database. |

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The generally listed functional requirements include

a) Validity checks on the inputs

b) Exact sequence of operations

c) Responses to abnormal situations, including

1.Overflow

2. Communication facilities

3. Error handling and recovery

d) Effect of parameters

e) Relationship of outputs to inputs, including

1. Input/output sequences

2. Formulas for input to output conversion