
Software Requirements Specification

for

**Assistance to Support to ICT Task Force for
Strengthening Government Institutions (Planning
Division, ERD and IMED) (ASICT)**

Version 1.0

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ACRONYMS

| | |
|------|--|
| ADP | Annual Development Programme |
| ERD | Economic Relations Division |
| GOB | Government of Bangladesh |
| ICT | Information and Communication Technology |
| SICT | Support to ICT Task Force |
| IMED | Implementation, Monitoring and Evaluation Division |
| UNDP | United Nations Development Programme |

Revision History

| Name | Date | Reason For Changes | Version |
|-----------------|------------|--------------------|---------|
| SRS Description | 02.06.2018 | | 1.0 |
| | | | |

1. Introduction

"Assistance to SICT for Strengthening Government Institutions (Planning Division, ERD and IMED) through implementation of NICT Task Force recommendations", on behalf of both the parties.

Intended to enhance e-governance by inter-connecting some key policy-making and monitoring institutions, the project will undertake three tracks that include building strategic interconnectivity among government institutions, integrated electronic services for facilitating e-government and capacity building or training of the government staff.

The project will mainly focus on Planning Division, Economic Relations Division (ERD) and IMED.

Bangladesh is at the threshold of introducing e-Government at a broad level throughout major government offices across the nation and also initiating various online citizen services.

In order to implement and coordinate all these activities, a Program called the Support to ICT Task Force (SICT) has been initiated at the Planning Division, Ministry of Planning, and with the directives of the National ICT Task Force, headed by the Prime Minister.

1.1 Purpose

The purpose of this document is the software requirement specification for ASICT software for the development of the ICT division and the overall development of the GoB.

“Assistance to Support to ICT Task Force for Strengthening Commission, ERD & IMED through ICT” (ASICT) a collaborative effort between the Government of the People’s Republic of Bangladesh and UNDP Bangladesh, was formulated to supplement SICT efforts by providing support for the design, development and implementation of comprehensive ICT systems in the Planning Commission, ERD and IMED, three divisions of the government that deal with development projects.

The aim is to enhance effectiveness and efficiency of work processes and procedures and integrate decision making and development efforts of these divisions by enabling offices in the three divisions to access each other’s resources and databases instantaneously, share electronic files and documents and communicate more efficiently.

The scope of the Project Planning System is as follows:

- Automating the IMED Reporting Forms.
- The scope of the Project Planning System is as follows:
- Automating the IMED Reporting Forms.
- Make project information available online so that different Government bodies can
- interact with it through world wide web and work together easily.
- Ensure flexibility, so that authorized users can access the project information from anywhere.
- Track projects.
- Book Printing – Annual Development Programme Implementation Progress Analysis.
- Reporting.
- Bilingual support (English and Bangla).Make project information available online so that different Government bodies can
- interact with it through world wide web and work together easily.
- Ensure flexibility, so that authorized users can access the project information from
- anywhere.
- Track projects.
- Book Printing – Annual Development Programme Implementation Progress Analysis.
- Reporting.
- Bilingual support (English and Bangla).

1.2 Background

The background of the project requirement specification specifies that the GoB is now trying to cope with the globalization and the improvement of ICT sector. To meet citizens' expectations of today's world, governments are under pressure to become more effective, integrated, responsive and faster ones. They are under pressure to operate and respond in a way that is adjacent to citizens' choice and voice. Nowadays, in many cases, they need to be as instant as always been ready to serve at the mouse-click of a citizen. This situation leaves no alternative for any government of the present world but to willy-nilly embrace new technologies.

In the perspective of technological revolution along with globalisation, around the world, governments are accommodating innovative efforts and necessary add-ons to confirm desired changes in the area of public administration to keep pace with newer expectations of citizens. No government in the present world can avoid such changes. Rather, they need to rethink as to how they should be organized from the perspective of the people. In this course, Information and Communication Technologies (ICTs) are being considered as new tools for the governments. Exploiting the potentials of ICTs governments are becoming electronic -which is known as „e-government“. However, introduction of e-governance not only involves changes to the systems, procedures, and processes of relevant services but also affects the ways and relationships in which citizens and business community, or the society as a whole, deals with government organizations. Government of Bangladesh has already started moving towards e-governance having its ambition to ensure better citizen services.

However, with feeble socioeconomic realities the country has to face many challenges, even in the very process of planning for development - i.e., in the process of identifying priorities when she struggles for fulfilling basic needs (like: food, shelter, health, education, pure drinking water, sanitation, etc.). In this context, transforming towards e-governance needs to answer many important questions; also, unavoidably needs to follow a goal-oriented plan of action. Besides, these sorts of steps need constant review and research support to achieve desired goals.

1.3 Intended Audience and Reading Suggestions

This document is intended for all individuals participating in and/or supervising the ASICT project. The Government of Bangladesh is trying to develop the governing system in an integrated system . here all of the users and the administrators will participate here for the service of the software system. Readers interested in a brief overview of the product should focus on the rest of Part 1 (Introduction), as well as Part 2 of the document (Overall Description), which provide a brief overview of each aspect of the project as a whole.

| User | User Type |
|-------------------------|-----------------------------|
| Guest | Public User |
| Site Visitor | Restricted User |
| Planning division Admin | Administrator (Super User1) |
| Reporter | Restricted User |
| Ministry | Administrator |
| ERD Admin | Administrator (Super User2) |
| IMED Admin | Administrator (Super User3) |

1.4 Objectives

The broad objective of the study is to provide the insights and understanding on the elevation of e-governance in Bangladesh from the perspectives of public administration and the world trend.

However, the specific objectives of the study are:

- To review the present status of and the initiatives for e-governance in Bangladesh.
- To study the websites of some selected ministries and divisions for examining how they are organized to serve and connect citizens.

- To appraise the levels of aptitude, awareness, perception and attitude towards e-governance, of the Class I officers working in the Bangladesh Secretariat.
- To identify the strengths, weaknesses and challenges of e-governance in Bangladesh.
- To develop policy guidelines for successful e-governance in Bangladesh.

1.5 References

[1] IEEE Software Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications”, October 20, 1998.

[2]UNDP (2004). Project Document. Assistance to SICT for Strengthening Planning Division, ERD and IMED through ICT.

[3] IMED (2008). Strategic Plan 2008 to 2013.

[4] Terms Of references (TOR) UNDP Bangladesh Project

2. Overall Description

2.1 Product Perspective

The strategy of the ASICT project is characterized by a rather narrow focus on enhancing ICT systems and capacities, while implicitly assuming that this will result in increased efficiency and transparency of the target institutions. Consequently, the strategy did not foresee a functional analysis to review and potentially rationalize existing business processes before developing the systems and did also not include a wider capacity needs assessment to identify non-ICT capacities and skills that need to be strengthened to ensure that the IT-enabled institutions will in fact perform their functions more efficiently.

Further, the project strategy reflects a very narrow focus on three institutions within the Planning Commission Campus, while disregarding other government agencies, in particular the Finance Division, which also play a key role in the wider development planning and resource mobilization, allocation and monitoring process that the ICT systems developed by the ASICT project are meant to support. The project was relevant to the Government of Bangladesh (GoB) during the design stage of the project and remains relevant during its implementation phase, especially in light of the “Digital Bangladesh” agenda of the newly elected government. However, a shift in UNDP’s corporate priorities during the implementation phase questions the continuous suitability of projects with a primary focus on enhancing ICT systems and capacities to UNDP’s corporate policies and priorities. The project implementation has so far not been entirely efficient. While the project is still on budget and seems to be generally cost-efficient, it is not on schedule. The project duration had to

be extended twice already, and it is still unlikely that all planned results can be achieved in the remaining timeframe. The project start was delayed due to difficulties in operationalizing it, and the implementation was affected by changes in the political environment and by slow procurement processes.

The ASICT project has been successful in achieving a number of ICT-related outputs, which are generally consistent with the attainment of its two immediate objectives, i.e.

- (1) “To establish network-based e-government services across offices;
- (2) To build capacities of government officials and staff and create an environment of utilization of ICT for regular government business processes”.

Entire Architecture of the system:

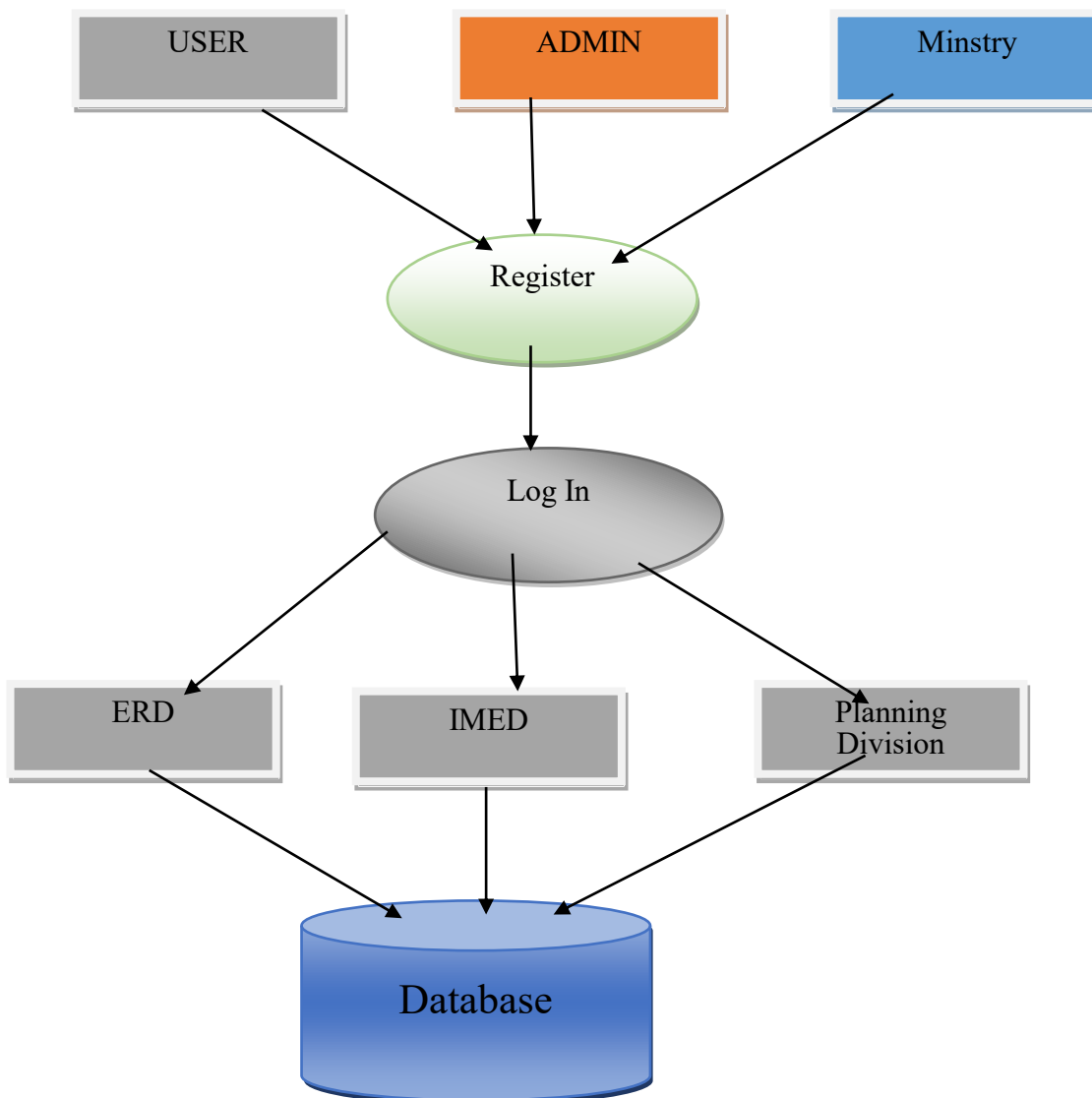


Figure: Project monitoring Information system.

2.2 Product Functions

The strategy of the ASICT project is characterized by a rather narrow focus on enhancing ICT systems and capacities, while implicitly assuming that this will result in increased efficiency and transparency of the target institutions. Consequently, the strategy did not foresee a functional analysis to review and potentially rationalize existing business processes before developing the systems and did also not include a wider capacity needs assessment to identify non-ICT capacities and skills that need to be strengthened to ensure that the IT-enabled institutions will in fact perform their functions more efficiently. Further, the project strategy reflects a very narrow focus on three institutions within the Planning Commission Campus, while disregarding other government agencies, in particular the Finance Division, which also play a key role in the wider development planning and resource mobilization, allocation and monitoring process that the ICT systems developed by the ASICT project are meant to support.

2.2.1 Problem Statement

This part of the ASICT project is undertaken for the development and implementation of the

➤ Project Monitoring Information System

The Project Monitoring Information System will be used to monitor all projects approved by the Planning Commission. The system will support both Bangla and English languages.

2.2.2 Business Goals

The following goals will be achieved by the Project Planning solution:

- ✓ Automating the IMED Reporting Forms.
- ✓ Make project information available online so that different Government bodies can
- ✓ interact with it through world wide web and work together easily.
- ✓ Ensure flexibility, so that authorized users can access the project information from
- ✓ anywhere.
- ✓ Track projects.
- ✓ Book Printing – Annual Development Programme Implementation Progress Analysis.
- ✓ Reporting.

- ✓ Bilingual support (English and Bangla).

2.2.3 Impacted Parties

- ❖ Implementation, Monitoring and Evaluation Division (IMED)
- ❖ Planning Commission
- ❖ Government Agencies
- ❖ Public Agencies
- ❖ Public
- ❖ Donors
- ❖ All other stakeholders

2.3 Operating Environment

Operating environment for the ASICT system is as listed below. distributed database

- client/server system
- Operating system: Windows.
- database: sql+ database
- platform: vb.net/Java/PHP

2.4 Design and Implementation Constraints

1. The global schema, fragmentation schema, and allocation schema.
2. SQL commands for above queries/applications
3. How the response for application 1 and 2 will be generated. Assuming these are global queries. Explain how various fragments will be combined to do so.
4. Implement the database at least using a centralized database management system.

2.5 User Documentation

| User Roles | |
|------------------|---|
| User Role | Descriptions |
| Viewer | They will only be able to: <ul style="list-style-type: none"> ❖ View data ❖ Generate reports |
| Project Director | The Project Director for the project will be able to: <ul style="list-style-type: none"> ❖ Fill up IMED formats ❖ View data ❖ Generate reports ❖ Add Attachments |
| IMED | This will be the user role for IMED personnel. Users with this role will be able to: <ul style="list-style-type: none"> ❖ View data ❖ Format Reports ❖ Enter Project Information ❖ Generate reports ❖ Add Attachments ❖ Add comments and monitoring information |
| Ministry | They will only be able to: <ul style="list-style-type: none"> ❖ View data ❖ Generate reports ❖ Edit Reporting Information from Executing Agency ❖ Add Attachments |
| Executing Agency | They will only be able to: <ul style="list-style-type: none"> • View data • Generate reports • Fill up IMED Reporting Information • Add Attachments |
| Administrator | <ul style="list-style-type: none"> • View data • Generate reports • Add Attachments • Add comments and monitoring information • Edit IMED reporting Information • Add and configure user profiles |

2.6 Assumptions and Dependencies

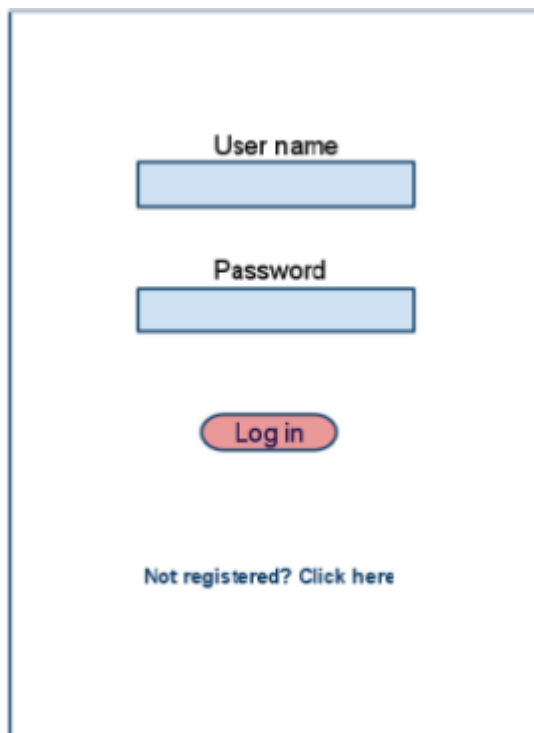
One assumption about the product is that it will always be used on devices that have enough performance. If the device does not have enough hardware resources available for the application, for example the users might have allocated them with other applications, there may be scenarios where the application does not work as intended or even at all.

Another assumption is that the users will try to find only relevant information in this website. If they try to find any irrelevant information then the web application will fail to provide it as it do not fall within the scope of the product.

3. External Interface Requirements

3.1 User Interfaces

- Front-end software: Vb.net version
- Back-end software: SQL+



A user interface mockup for a login window. It features a light blue background. At the top, the text "User name" is centered above a light blue rectangular input field. Below this, the text "Password" is centered above another light blue rectangular input field. Further down, a red oval button with the text "Log in" is centered. At the bottom, the text "Not registered? Click here" is centered in a smaller font.

Figure3.1: Log In window



A user interface mockup for a change password window. It has a light blue background. At the top left is a blue button with a left-pointing arrow and the text "Back". Below it, the text "User Name" is centered. Under "User Name" is the text "name@example.com" followed by a small blue "Edit" button. Below that is the text "070 - 400 00 00" followed by another small blue "Edit" button. A larger blue button with the text "Change password" is centered below these. A horizontal line separates this section from the bottom section, which is titled "Change language". Below this title are four buttons: "Swedish" (yellow), "French" (red), "English" (red), and "Spanish" (yellow), arranged in a 2x2 grid.

Figure3.2:Change password window

3.2 Hardware Interfaces

Specify the logical characteristics of each interface between the software product and the hardware elements of the system. This includes configuration characteristics (number of ports, instruction sets, etc). It also covers such matters as what devices are to be supported, how they are to be supported, and protocols. In our ASICT project requirement specification the required hardware properties may include the followings.

- Windows.
- A browser which supports CGI, HTML & Javascript.

3.3 Software Interfaces

Following are the software used for the ASICT online application.

| Software used | Description |
|------------------|--|
| Operating system | We have chosen Windows operating system for its best support and user-friendliness. We can also develop the project for MAC and LINUX in future. |
| Database | To save the ministry reports, records and other data for future use and for safety we have chosen SQL+ database. |
| VB.Net | To implement the project we have chosen Vb.Net language for its more interactive support. |

3.4 Communications Interfaces

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for both the mobile application and the web portal.

This project supports all types of web browsers. We are using simple electronic forms for the reservation forms, ticket booking etc.

4. System Features

4.1 Registration

4.1.1 Description and Priority

If the user doesn't have a user account, she/he can request for registration by clicking on the Registration button in the Index page. On clicking the button, the user will then be taken to the Registration Request section. The user will need to fill in the particulars.

Executing Agencies and divisions of various ministries will need to apply for project approval by submitting the project information through the Project Planning System; apart from submitting hard copies of project files to the Planning Ministry. To submit project proposals, divisions of various ministries/executing agencies will need to log into this system. To log into the system, they will need a user account. For obtaining the user account, they can apply through this section.

4.1.2 Stimulus/Response Sequences

Step 1: User must click the 'Register button

Step 2: Then the user will provide valid username and password and some other details provided as an identity .

Step 3: User will hit enter

4.1.3 Functional Requirements

The website must ensure that the user's information is stored safely and he is registered for the further approach by using his/her username and password.

4.2 Log in

4.2.1 Description and Priority

The user or admin will have to log in to the system to have services from the system. The login functionality is required to authenticate that the information are not going to the wrong hand.

4.2.2 Stimulus/Response Sequences

Step 1: User must click the 'Login' button

Step 2: Then the user will provide valid username and password provided from the department

Step 3: User will hit enter

4.2.3 Functional Requirements

The website must ensure that the user's information is encrypted and safely stored.

4.3 Data Collection & Entry

- Prepare user manuals that link the systems to the matching business process, i.e. merge the rules of business with the user manuals.
- Prepare draft directives regarding the use of each system. Back-office applications would only need written directives from the responsible Secretary, while the directives regarding use of business applications that involve several Divisions would need to be signed by the responsible Minister or even the Prime Minister.
- Start training of “super users” within the relevant Divisions that can support the system rollout to line ministries and provide general user training to new staff.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

5.2 Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure.

5.3 Security Requirements

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner

carefully. As this project is directly related to the ministry of Government Of Bangladesh. A lots of important data and oter reports are stored here for further use and for safetv use. The data security system is very important here. Any problem in the ecurity will cause a great problem here.

5.4 Software Quality Attributes

- **AVAILABILITY:** The user authentication should be available at every moments. As many users can request for the same service at the same time the system should be more effective and available to the remote users also.
- **CORRECTNESS:** The informations provided by the system should be correctly stored and also mainatain the redundancy .
- **MAINTAINABILITY:** The administrators and ministry admin in chargers should maintain correct management of the system.
- **USABILITY:** The proposed system should be user friendly as it will be used by both the administrating panel and also by the remote people of Bangladesh.

5.5 Business Rules

The benefits of e-Government come about when related government offices are inter-connected and integrated. This will allow the offices to access each other's resources and databases instantaneously, share electronic files and documents, communicate more efficiently and integrate decision-making and development efforts.

It is further recommended that a comprehensive functional analysis of the wider development planning and resource mobilization, allocation and monitoring process be carried out, with a view towards rationalizing related business procedures, if required. The functional analysis should be complemented by a wider capacity needs assessment, resulting in the development of a training curriculum to enhance nonICT skills. The implementation of a holistic capacity development strategy should ideally be part of a wider programmatic approach, potentially involving other development partners. It is recommended that the future status and role of target institutions such as IMED be clarified before engaging into larger interventions. Further, it is recommended that a comparative cost-benefit analysis be prepared, which covers different options to enhance ICT support services in the Planning Commission Campus. Options to be considered could include the establishment of a Mission Report: Review of ASICT Project viii central ICT unit with pooled staff and the outsourcing of certain user support functions to the private sector.

6. Other Requirements

Specify all of the software requirements to a level of detail sufficient to enable designers to design a software system to satisfy those requirements.

Specify all of the software requirements to a level of detail sufficient to enable testers to test that the software system satisfies those requirements.

At a minimum, describe every input (stimulus) into the software system, every output (response) from the software system, and all functions performed by the software system in response to an input or in support of an output.

The specific requirements should:

- Be stated in conformance with all the characteristics described in 5.2 of this International Standard;
- Be cross-referenced to earlier documents that relate;
- Be uniquely identifiable.

Apart from linking ASICT more closely with other ICT-related projects, such as the Access to Information Programme, UNDP should consider two options for future interventions that would use ASICT as an entry point, but would focus more on the wider development planning and resource mobilization, allocation and monitoring process, as well as on enhancing related non-ICT capacities.