

MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY



Draft Procedures and Guidelines for Development and Acquisition of Software

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INTRODUCTION

Mbarara University of Science and Technology aims to efficiently automate its business and work processes by the introduction of software systems. Considering that the University is a multi-functional organization, there is need for the software development and acquisition processes to be well managed and co-ordinated. These guidelines aim at providing a systematic process for the university to purchase or develop software solutions.

GUIDELINES

1. There shall be a single approval process.
2. Software can be acquired by the university from either external or in-house software developers
3. User priorities and requirements, including funding provision will be identified through, at first, a Development Request from the intended principal user of the proposed solution.
4. The introduction of any new system will be co-ordinated and project managed by Computing Services Unit.
5. Once requirements and business objectives have been defined the default preference order for the sourcing of a solution will be:
 - Use an existing supported system
 - Modify an existing supported system
 - Buy a new system
 - Buy a new system then modify/adapt if significant functionality is unavailable
 - Develop a custom system
6. All administrative systems will be developed centrally in order to prevent duplication of effort and maximize resource utilization.
7. Existing systems will be extended/fixed/upgraded where possible rather than source new solutions.
8. User requests for enhancements and upgrades will be managed through iteration of these guidelines and procedures.

SOFTWARE DEVELOPMENT AND ACQUISITION PROCEDURE

The introduction of a new system will start with the identification of the need. This will be in the form of a Development Request with generalized information of requirements that should be forwarded to the Computing Services Unit. In the case of a costly and/or complex system, an outline proposal will be required that should clearly detail why a new system should be introduced. The Computing Services shall modify the request to suit the university's technical standards.

1. Development and Cost Proposals from In-house as well as external software Developers in relation to the Development Request shall be invited.
2. The revised Development request or Proposal as well as the internal and external development requests will be appropriately submitted to the University's ICT Committee for consideration.
3. The ICT Committee shall competently determine the following;
 - a. Whether the proposed solution is feasible and viable
 - b. Whether to use internal or external developers on the basis of the development proposals received from both groups. This scrutiny will emphasize the functional, technical and cost proposals.

IN-HOUSE SOFTWARE DEVELOPMENT

If the ICT Committee decides to use the in-house software developers; the university's In-house software development procedures shall be applied at this point.

EXTERNAL SOFTWARE DEVELOPMENT

If the ICT Committee decides to use the external software developers; the university's Procurement and Disposal procedures shall apply in line with the Public Procurement and Disposal of Assets (PPDA) regulations.

DELIVERABLES

1. At the end of the system development period, the university shall expect a fully functional software system to be verified on the basis of the final development request to be officially handed over to the University and a signed contractual agreement between the University Secretary and the System Developer.

The following will be clearly stipulated;

- i. Full handover report of the system clearly explaining system modules to be handed over and their full functionality
 - ii. Technical manual of the system describing functionality, relationships and integration of system modules and their alignment to the source code and database tables and relationships
 - iii. System administration manual describing administrator privileges and abilities.
 - iv. User manual describing various categories of system users and their privileges and abilities
 - v. Full training manual for the system for the following users
 - All ordinary users
 - Administrators
 - Internal Auditors
 - vi. Entity Relationship Diagram (ERD) for the system
 - vii. Data Dictionary for the System database
 - viii. Log management procedures for the system (In line with the university's policy)
 - ix. Password management procedures for the system(In line with the university's policy)
 - x. Back up procedures for the System (In line with the university's policy)
 - xi. Mandatory support and maintenance of the system over a period pf time.
2. The functional unit owner of the system shall be the sole custodian of the system source code and server side controls and shall sanction any updates, upgrades and modifications to be performed on the system.