Case Study Plan: Managing a Software Database for an Educational Institution

Introduction

Educational institutions depend on software for many parts of their daily work, including teaching, communication, and administrative tasks. With so many programs being used across a university, it can become difficult to know what software is available, which departments are using it, and when licenses or installations need attention. For this case study, I would create a software-tracking database for a hypothetical university. The goal would be to give the Information Technology (IT) department one place where software records can be stored and accessed instead of having information kept in different spreadsheets, emails, or paper files.

The purpose of the project would be to organize important details about the university's software. Some of the information stored in the database would include the software name, type, developer, version, license information, department using the software, computers where it is installed, and installation dates. Authorized employees would also be able to search the database and create reports when necessary. As the project leader, I would be responsible for keeping the project organized, communicating with the people involved, documenting what is needed, monitoring deadlines, and making sure each part of the project is completed. I would also rely on members of the technical team for tasks that require more specialized database and IT knowledge.

For this project, I would use the six-phase model from Wouter Baars's (2006) project management handbook. The phases are Initiation, Definition, Design, Development,

Implementation, and Follow up. I would use these phases to break the project into clear steps and review the progress of the project before moving from one stage to the next.

Initiation Phase

The first phase of the project would be the Initiation phase. According to Baars (2006), the Initiation phase begins with an idea for a project and is used to examine whether the project is feasible, identify the people who should be involved, establish project boundaries, and develop a project plan. The goal is to have an approved project plan before moving into the next phase.

To start the project, I would first learn how software records are being managed across the university. I would speak with IT staff and employees from different departments to understand what information they currently keep and where they are having difficulties with the existing process.

For example, the university may currently have software information stored in different spreadsheets or maintained separately by different departments. This could make it difficult to determine which computers have specific software installed, which department is responsible for a license, or when a license needs to be renewed. During the initiation phase, I would document these problems and explain why a centralized database would be useful.

As the project leader, I would also identify the people who need to be involved in the project. The project team could include a project leader, database developer, systems analyst, database administrator, IT or cybersecurity representative, and representatives from departments that would use the database. The university's IT administrator or another appropriate administrator would act as the project sponsor and provide approval for the project.

Another important part of this phase would be establishing the boundaries of the project. The project would focus on creating a database to track software and related information. It would not involve replacing the university's entire IT infrastructure or creating new software applications for the university. Establishing these boundaries would help prevent the project from becoming larger than originally planned. Baars (2006) identifies establishing project boundaries and preparing a project plan as activities associated with the Initiation phase.

The main deliverable for this phase would be an approved project plan that includes the purpose of the project, the project scope, the people involved, preliminary risks, estimated resources, and the expected outcome.

Before moving into the next phase, I would make sure the project plan has been reviewed and approved so everyone understands what the project will involve and what we are trying to accomplish (Baars, 2006).

Definition Phase

After the project is approved, I would move into the Definition phase. Baars (2006) explains that the Definition phase is used to determine the requirements associated with the project result and to understand the expectations of the people involved. The handbook identifies preconditions, functional requirements, operational requirements, and design limitations as areas that should be considered during this phase.

I would meet with future users of the database, including IT employees and department representatives. During these meetings, I would ask questions about the information they currently track, the information they need to access, and the types of reports they would find useful. I would document these responses and organize them into a list of requirements.

Some of the requirements could include storing the software name, developer, version, license information, department, computer or device, installation date, and license expiration date. The database should also allow authorized users to search for software and generate reports. Another requirement would be having different levels of access so that employees only have access to the information and functions necessary for their jobs.

I would also identify operational and security requirements. For example, the database should be available to authorized employees, information should be backed up, and users should have appropriate permissions. I would work with the IT and cybersecurity representatives to make sure these requirements are realistic.

The people who will actually use the database would be important during this phase. Baars (2006) emphasizes the importance of involving end users in the Definition phase because they will ultimately use the project result. The project team would also need to balance the requirements and determine whether they are feasible.

At the end of this phase, I would create a requirements document and have the project sponsor and appropriate stakeholders review and approve it. I would also update the estimated timeline, resources, and budget based on what we learned during this phase. Baars (2006) explains that estimates and project control factors should be reviewed as the project progresses because more information becomes available during each phase.

Design Phase

The Design phase would focus on deciding how the database should be organized and what it should look like. Baars (2006) explains that the requirements developed during the Definition

phase are used to make decisions about the technical and functional design of the project. A design document is produced to explain how the proposed system will work.

As the project leader, I would not personally be responsible for programming the database. Instead, I would work with the database developer and systems analyst to make sure the design matches the requirements identified in the previous phase.

One possible structure could include tables for software, licenses, departments, computers, and software installations. The database developer would determine the technical relationships between these tables and how the information should be stored. I would help make sure the design makes sense from the user's perspective and that it addresses the needs that were identified during the Definition phase.

The team could also create simple mock-ups of the database screens and reports before building the final version. For example, we could create a sample screen showing how an IT employee would search for a specific software program or view all software installed within a particular department. We could also create a sample report showing software licenses that are approaching their expiration dates.

I would review these designs with the future users and ask for feedback before development begins. Baars (2006) describes the use of mock-ups or dummies as a way to evaluate a proposed design with customers and end users before the final product is completed. This would give us an opportunity to identify problems early rather than waiting until the database is already built.

The object to be obtained for this phase would be an approval for the documentation design which would be explaining how the database will be structured, how users will interact with it, and what reports and functions will be included.

Development Phase

The Development phase would be where the technical team begins building the database based on the approved design. Baars (2006) describes this phase as the point where the project team organizes the personnel, tools, materials, suppliers, and other resources needed to prepare the project for implementation.

My role during this phase would be to coordinate the work rather than personally build every part of the database.

The database developer would create the database, tables, relationships, forms, queries, and reports. The database administrator would help prepare the database environment, user permissions, backups, and other administrative tasks. The systems analyst would help make sure the system being developed continues to match the requirements. I would communicate with these team members, track progress, monitor deadlines, and document any problems or decisions that come up.

I would also prepare for testing during this phase. For example, I would help create sample software records that can be entered into the database and develop a list of tasks that users should be able to complete. These tasks could include adding a new software program, updating a license, searching for software installed on a computer, and creating a report of licenses that are about to expire.

Another part of my responsibility would be keeping track of issues and changes. If the team discovers that something in the original design needs to be changed, I would document the issue and discuss the change with the appropriate decision-makers. Baars (2006) emphasizes the

importance of recording project information, decisions, issues, and risks so that important project information is not lost.

The Development phase would be considered complete when the database is ready to be tested and moved into implementation. The main deliverables would include a working version of the database, test data, testing procedures, user documentation, and any necessary technical documentation.

Implementation Phase

The Implementation phase would involve putting the database into actual use. Baars (2006) describes implementation as the phase in which the actual project result is constructed and then evaluated against the requirements and design.

Instead of immediately making the database available to the entire university, I would recommend starting with a small pilot group. For example, the IT department and two or three university departments could participate in the pilot.

Before the pilot begins, I would make sure the users have the appropriate accounts and access permissions. I would also provide basic training and a user guide explaining how to perform common tasks. The users would then complete tasks such as entering software information, searching for records, updating licenses, and generating reports.

During the pilot, I would collect feedback from the users and document any problems they experience. If users have difficulty finding information or completing a task, I would work with the technical team to determine whether the issue is related to the database, the design, or the way the system was explained to users.

After testing, I would compare the final database to the requirements and design documents. This would help determine whether the project actually produced what was originally requested.

During the Implementation phase, I would make sure the database is actually doing what we planned for it to do. I would go back to the requirements from the earlier phases and test the database to make sure the important features are working and that the final product meets the needs of the users (Baars, 2006).

If the pilot is successful and the major issues have been addressed, the database could then be introduced to the remaining departments. The main deliverables for this phase would be the operational database, completed user testing, training materials, documentation of issues and solutions, and an implementation report.

Follow Up Phase

The final phase would be the Follow up phase. Baars (2006) explains that the Follow-up phase is used to secure the project result after implementation. This can include documentation, training, maintenance, evaluation, a final report, and transferring responsibility to the organization that will maintain the result.

At this point, responsibility for the database would be transferred from the temporary project team to the appropriate IT employees. The database administrator could be responsible for technical maintenance, backups, and user access, while the IT department would be responsible for making sure software information remains current.

I would also make sure that the university has a basic process for adding new software, updating existing records, removing outdated software, and handling problems reported by users.

A user guide and training materials would remain available so that new employees could learn how to use the system.

Finally, I would complete a project evaluation. I would review whether the database met the original requirements, whether the project stayed within the expected timeline and resources, what problems occurred, and what could be improved in future projects. I would collect feedback from the users and include the results in a final project report.

Baars (2006) identifies activities in the Follow-up phase such as reporting on project control factors, compiling a final statement, dissolving the project team, and transferring responsibility to the administrative organization. This would allow the temporary project team to complete its responsibilities while the university's IT department takes over the ongoing management of the database.

Conclusion

Creating a software tracking database for a university would require more than simply building a database. The project would need to be planned carefully so that the final product actually meets the needs of the people who will use it. As the project leader, my responsibility would be to keep the project organized, communicate with stakeholders, document requirements and decisions, coordinate the technical team, and make sure the project stays focused on its original purpose.

Using Baars's (2006) six phase model would provide a clear structure for managing the project. The Initiation phase would establish the problem, purpose, team, and boundaries. The Definition phase would identify the specific requirements. The Design phase would determine how the database should work. The Development phase would involve building and preparing the

database for testing. The Implementation phase would introduce the database through testing, training, and a pilot. Finally, the Follow-up phase would make sure the database is maintained and that responsibility is transferred to the appropriate university employees.

Overall, following these six phases would give the university a practical way to organize the project while allowing the team to review its progress before moving forward. It would also make my role as project leader realistic because I would be responsible for coordinating the project and working with technical employees rather than trying to perform every technical task myself. Baars (2006) emphasizes that project planning becomes clearer as a project progresses, making it important to review and adjust project information throughout the different phases.

References

Baars, W. (2006). *Project management handbook* (Version 1.1). DANS.

Project Management Handbook