

**Project Management: Building a Database to Track USF's Software**

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## **Project Management: Building a Database to Track USF's Software**

*Case: You (with your team) have been asked to develop a database according to customer specifications, for a software-tracking database, for a college or university*

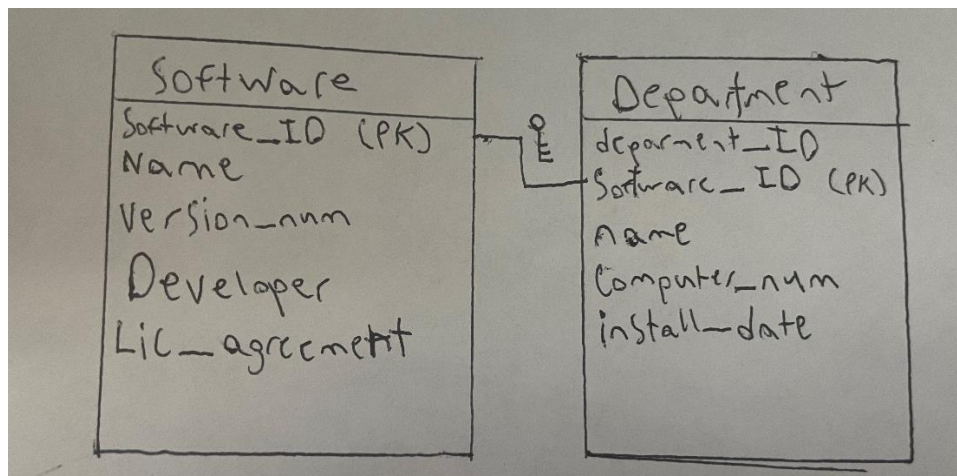
Databases are essential to a large organization's online operations. Databases can store virtually any kind of information including user accounts, software information, and even password hashes. In this essay, I will use the 6-phase project management model purposed by Wouter Baars, to create a fictional database for the University of South Florida's IT department. This database will track all software used by USF by the type of software, software developer, software versions, departments using the software, and lastly timestamps for when they were installed. Each of those metrics will have its own column in the database and will use a software ID number as the primary key. A primary key is what uniquely ID's a row in a table, or each individual entry into a database.

The first phase of Baars model is the initiation phase. The initiation phase marks the very beginning of a project. According to Baars, at this stage you are asking questions such as: why this project? Is it feasible? As well as who are the partners in the project (Baars, pp. 2). The answer to our why is straightforward but also an important concept to understand. Generally, it's a requirement for organizations as large as USF to track what software is being used. One of the most important reasons for this is because introducing new software onto a network can potentially damage a networks cybersecurity posture. With every new piece of software installed, you increase the number of vulnerabilities and potential attack vectors, especially if the software is unlicensed or from a non-trusted vendor. This is why many organizations have made it so employees cannot install tools or software without the approval of the IT department. Although it is likely that USF uses a vast array of software, it is still feasible to fit them all in a single

database using multiple tables. Our partners in this case would be USF's IT department as they are the ones who will ultimately be in charge of the database after it's completed.

Phase 2 is the "Definition" phase. According to Baars "In this phase, the requirements that are associated with a project result are specified as clearly as possible. This involves identifying the expectations that all of the involved parties have with regard to the project result" (Baars, pp 5). Communication with the IT department is especially important at this stage. By the end of this phase, we should expect a list of important specifications from the IT department which in the case of a database would be determining what columns and tables we need to create, and the data being recorded.

Once we have a clear vision of the data, we will be tracking we can begin phase 3. The design phase. At this phase a written plan is created for the database. Here you would sketch out the database schema using flow charts or site trees. Its important to note that once the design phase has been completed, you must stick with the design for the rest of the process. This means the design phase should be done with extra care, remember not to rush this phase and to be sure the data can aggregate properly without errors. Below you can see an example of a hand drawn schema that I purpose will meet the USF IT Departments listed requirements.



Following the design phase is the development stage. At this point resources are gathered and prepared for implementation. A timeline is also created at this point to establish an end date for when the program will be fully implemented. This would be when you select what kind of database you would be using and the proper programs you would need to do. The development stage can be seen as the staging grounds for the 5<sup>th</sup> phase, the implementation phase.

Upon completion of the development phase, you are now ready to implement your design and begin creating the database. This phase is known as the implementation phase, in or case we would begin building our database based on the design established in phase 3. Many tools exist to create databases including Microsoft Access, MySQL, Oracle Database, and many others. I personally have the most experience using Microsoft Access; therefore, this would be the database program I would most likely use unless I was told otherwise during the definition phase. As you can see in my rough sketch, the tables are linked by the software\_id primary key. As you can see, the software table includes the software name, version number, developer, and lastly the licensing agreement (free or subscription based). Each department would likely need a variety of software programs, it is for this reason I created a separate table to represent departments, linked by a unique software ID. The department table includes columns for a department ID number, as well as the name of the department. I have also included a row exclusively for a computer number because it is unlikely all computers in each department would need the exact same programs as there should be at least one computer with admin access to oversee all the data within that department. Once the database has been fully built and the data has been transferred inside, we are ready for the final stage, the follow-up phase.

Many times, people skim over the follow-up phase and miss essential parts of the project management process. In this phase the project goes from an idea to a full-fledged product.

Although most of the groundwork is done, in the follow-up phase you begin creating support assets for your product. This includes materials on how to use the product, as well as training users in how to properly use it and even creating a help-desk if necessary. Once you have all the support assets in place, you are officially ready to launch the program.

Project management is a vital part of all industries, in the process of writing this paper I have learned a lot about how important it is to have a pre-planned regime for releasing a product. This paper details the development of a software-tracking database for the University of South Florida's IT department, following Baars' project management model. Highlighting the project's rationale, stakeholder collaboration, and phases such as initiation, definition, design, development, implementation, and follow-up. Emphasizing meticulous planning, tool selection, and post-implementation support, and underscores the importance of structured project management in delivering tailored solutions.

### Works Cited

Baars, W. (2006). Project Management Handbook. *DANS – Data Archiving and Networked Services- The Hague*, 1-5. [https://www.projectmanagement-training.net/wordpress/wp-content/uploads/2015/11/book\\_project\\_management.pdf](https://www.projectmanagement-training.net/wordpress/wp-content/uploads/2015/11/book_project_management.pdf)