Developing a Database Specification

A Basic Checklist

❑ Purpose

Define the purpose(s) of the database. Be specific about the broad functions the database will perform and how these will support the work of your organisation.

❑ Alternatives

Consider whether any of these objectives could be better met by some other means. A database application is not always the right solution. If not, stop here.

❑ Data Items

Make a list of the major entities about which information will be captured (eg. Clients, Organisations, Orders, Products, Sales, etc). For each of these, list the specific information which will be needed. For example:

Entity	Associated Data
Client	• Name • Address • Phone number • Organisation Name • Etc
Sale	• Customer name • Date of purchase • Items purchased • Cost of items purchased • etc
....	

❑ Entity Relationships

For each of the entities identified above, describe how it relates to other entities. For example, “each Student will be enrolled in one or more Courses”, “a Class consists of one Teacher and between 10 and 20 students”.

❑ Functionality

Document how the data will be used. What specific operations will the database perform (eg. automate mail-outs, generate reports, facilitate searching and matching, perform statistical analysis, etc).

❑ Data Quality

Consider how this data will be captured and (where appropriate) kept up to date. Who will be responsible? Do they have a stake in the accuracy of the data? How important is data quality to the operation of your business? What are the potential risks and costs associated with incomplete or inaccurate data?

Business Rules

Define any business rules which apply to the data. For example, what determines whether a client is considered "active"? Are certain pieces of client information (such as name and address) mandatory? Who has the authority to authorise particular transactions? Most of these rules will already be embedded in your organisation's day-to-day practices, but may have never been written down.

Classifications

Document any classification schemes which might be used by the database. Data which is categorised in a systematic and meaningful way is much easier to search, sort and report on. Well thought out classification schemes make your data much more manageable.

User Interface

Describe any ideas you have about how the user interface should look and behave. Consider how the user might navigate between different parts of the application, as well as specific functionality such as searching, adding new records, updating existing records, and so on.

Reports

Describe any reports which are required. This would include listing the specific information to be contained in each report, as well as details of any calculations, sorting, grouping or filters which need to be applied to the data. It can be particularly helpful to have the end users of these reports make a detailed sketch of how they want each report to look.

Security

Think about whether access to your data needs to be restricted in any way. Will the database contain sensitive information? Will it be accessible to people outside your organisation (eg. via the Internet)? Does it need to be accessible to staff who aren't connected to your local or wide area network? Who should be able to view, add, edit or delete data? Does your organisation have security standards or protocols which would apply to this application?

Scale

Consider the likely size of the database and the amount of work it may be required to do. These may be important factors in determining which database management software best meets your requirements. How many records is the database likely to contain? How often is data added, changed or deleted? How many users might the database need to handle at any one time? Does the database need to be available 24 hours a day?

Operating Environment

Find out about your organisation's current hardware and software environment. Important considerations include the kind of network which is in place, the hardware specifications, operating systems and business software in general use, and any standards and/or plans for the future your organisation has in relation to these.

For further advice or assistance…

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