

THE DESIGN OF THE PMBC REFERENCE COLLECTION DATABASE

Somchai Bussara wit¹, Andrew Davison² & Charatsee Aungtonya¹

¹*Phuket Marine Biological Center (PMBCJ), P.O. Box 60, Phuket 83000, Thailand, E-mail: pm bcnet@phuket . ksc. co. th.*

²*Dept. of Computer Engineering, Prince of Songkla University, Hat Yai, Songkhla 90112, Thailand*

ABSTRACT

The PMBC Reference Collection database holds over 14,000 records on marine species found in the south of Thailand. The design criteria for the database can be broadly classified into three groups: data issues, user interface issues, and system issues. Data issues include the database schema, extensions for new data types and multimedia support, the effects of the large dataset, integration with other database systems, the proposed search, update and viewing capabilities, the programmable features, and maintenance. User interface issues include the ease of use for people with differing technical backgrounds, on-line help, the availability of familiar windows-based input mechanisms. Output must be possible in a variety of forms, including as reports, tables and graphics. Planned LAN and Web access requires a consideration of security. System issues are concerned with the hardware and software support needed for the smooth running of the database. Hardware requirements include the machine configuration, backup facilities, peripherals, and network hardware. Software requirements involve the database runtime system, Multimedia, the operating system, and the network/Web interfaces. General system issues include reuse, stability, cost, speed, portability, and technical support. In this paper, we consider these various design issues in more detail, in order to motivate our choice of a custom-designed Access 97 database running under Windows 95 on a high-powered PC.