

Introduction

This document contains a proposal for project development. We are distributing it for informational purposes only. It is a work in progress and not to be misconstrued as a completed and approved plan. The document was prepared from the general consensus achieved during meetings of the committee, but not discussed in detail. Many of the elements have been discussed separately and some are in the process of implementation. Following convention, the committee will move on to the evaluation and approval of the overall plan.

Comments

The plan of action for implementation of the database should consider the following points:

- A. Review Jim McCleery's road map (see Appendix A).
- B. All databases should be able to import and export files - delimited text.
- C. Should use common application when appropriate.
- D. Define common GUI structure so that they are easy to learn.
- E. Emphasize member value.
- F. Emphasize improvements that will assist volunteers in their work. Ensure that the changes made do not make operations more difficult or time-consuming.
- G. Designated databases should be converted using the final database structure, function, and GUI.

Staffing methods, project management, and implementation of quality control are very important to the success of the project. Following are considerations to keep in mind:

- A. Define staffing methods, project management, and implementation controls.
 - a. Need to appoint a Project Administrator.
 - b. Options for technical staffing: Hire webmaster to do project, in-source project to USMS technical members (webmaster can bid also), and/or out-source project to outside contractor (see Appendix B).
 - c. Need to define smaller sub-committees to move forward with Modules defined below.
 - d. Need to designate module administrators.
 - e. Recruit additional personnel from outside the basic DB Task Force Committee.
- B. Module administration and staffing is as follows:
 - a. Module Administrator—Over site of the implementation of the module and tasks within.
 - b. Sub-committee Members—Three to four people from the DB Task Force or other volunteers (specialists to be named if necessary). This sub-committee is chaired by the module administrator and handles over site and policy decisions for the module. The committee defines the input and product for the module, but not how the database is structured or the process and function of the programming.
 - c. Technical Staff—Person or persons who do the actual technical work for a module. This group implements the policies specified by the sub-committee and has complete authority in technical and implementation matters.
 - d. If a person fills more than one position in the administration, they will have the privileges and responsibilities of all the positions they fill. Therefore, anyone who occupies a position in the project shall be fully qualified to fill that position.

Suggested Modules follow. Module 1 must be completed first. Most Modules can be done in parallel after Module 1 is complete.

Module 1—Laying the Groundwork

- A. Task 1—Project Administration
 - 1. Choose project administrator
 - 2. Identify personnel available to staff modules

- B. Task 2—Module 1 Staffing
 - 1. Module administrator - Webmaster
 - 2. Sub-committee Members - ?
 - 3. Technical Staff - ?
- C. Task 3—Swimmer ID
 - 1. Complete definition of permanent Swimmer ID
 - a. Algorithm which will generate the ID
 - b. Check-digit calculation
 - c. Method of assignment of ID's
 - d. Plan for distribution via Leoware/Esther's database.
 - 2. Implement for membership year 2003.
 - a. Assign permanent swimmer ID to all currently registered swimmers
 - b. Assign permanent swimmer ID to all other swimmers in historical files
 - c. Modify existing software as necessary.
- D. Task 4—Survey of Other Organizations
 - 1. Request the technical subcommittee to identify the items we need to consider in other organizations' experiences.
 - 2. Survey other organizations.
- E. Task 5—Overall DB Structure
 - 1. Define overall system structure and links
 - 2. Choose the database manager the files will be stored in.
- F. Task 6—Graphical User Interface
 - 1. Define common standards for GUI to be used for each database in the system.
 - 2. Define standards for implementing non-standard GUI elements.
- G. Task 7—Swimmer Information Database Analysis
 - 1. Analyze the swimmer information contents of the registration database, the history & archives database, and the records & top ten databases.
 - 2. Reconcile the differences in the way information is stored in these databases.
 - 3. Define the structure of the registration database and make sure it contains all the information needed by the major databases (refer to Roadmap).
- H. Costs and Timeline
 - 1. Estimated start time - ?
 - 2. Estimated completion time - ?
 - 3. Estimated costs - ?

Module 2—History & Archives Database

- A. Task 1—Staffing
 - 1. Module Administrator - Carl House
 - 2. Sub-committee Members - ?
 - 3. Technical Staff - ?
- B. Task 2—Swimmer Information Database

1. Convert the National Registration Database to the new structure defined in Module 1 Task 6, using the new permanent swimmer ID as the key.
 2. Add the information from the H&A database on swimmers that are not resident in our national registration database
- C. Task 3—Records & Top Ten Database
1. Ultimately, information in the Current Records, & Current Top Ten, and other databases which contain national records should be the same as in the historical database.
 2. Identify the fields, their process and function from the R & TT database that will also be present in the H&A DB.
- D. Task 4—Define Structure of H&A Database
1. Divide H&A DB into segments that can be converted independently
 2. Define data structure and links between each segment and Swimmer Information Database (refer to Roadmap).
- E. Task 5—Define Output of H&A Database
1. Display on USMS Server
 2. Data output needs
- F. Task 6—Costs and Timeline
1. For each segment of the H&A DB, define:
 - a. Estimated start time - ?
 - b. Estimated completion time - ?
 - c. Estimated costs - ?
- G. Task 7—Implementation of H&A DB conversion
1. The planning of this task is dependent on the completion of the previous tasks.

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Module 3—Registration Database

- A. Task 1—Staffing
1. Module Administrator - ?
 2. Sub-committee Members - ?
 3. Technical Staff - ?
- B. Task 2—Creation of Registration Database
1. Move forward with creating the first module of our new database - the Swimmer Information Module.
 2. Analysis for this task will take place in Module 1 Task 6.
 - a. Need to define field specifications for all fields. Can probably use Leoware as basis for most fields. Note: Many databases will use the swimmer ID as a key to point to the registration database. Many fields of the registration database will be used by other databases.
 3. The conversion will take place in Module 2 Task 2. The registration database staff will handle it so the H&A staff can work on their database.
- C. Task 3—Implementation of Registration System
1. Define phased implementation of database.
 - a. Convert national registration database first (Task 2 above). The rest of the system works as it does now and feeds the new database.
 - b. Build GUI for national registration database and provide for additions, deletions, updates, and output.

- c. Build GUI for LMSC registrars to update to and get output from web-based database.
- d. Eventual on-line registration for members.

D. Costs and Timeline

- 1. Estimated start time - ?
- 2. Estimated completion time - ?
- 3. Estimated costs - ?

Module 4—Top Ten Database

Design and implementation of this module will depend on the implementation of Modules 1–3. Some thoughts:

- A. Consider the similarities between the current Top Ten and the H&A Top Ten
- B. Data structure should be identical to History & Archives.

Module 5—National Records Database

Design and implementation of this module will depend on the implementation of Modules 1–3. Some thoughts:

- A. Consider the similarities between the current National Records and the H&A National Records.
- B. Data structure should be identical to History & Archives.
- C. The All-Time Records, All-Time Relay Records, and Long Distance Records should also be considered here.

Module 6—Event Management

Design and implementation of this module will depend on the implementation of Modules 1 & 3. Some thoughts:

- A. On-line event registration
 - 1. Use current nationals entry system as a basis.
 - 2. Open up to other national championship events (i.e. postal events)
 - 3. Extend to other meets.
 - 4. Apply user fees to fund some of the database project.
- B. Export capability for SDIF and text delimited required.
- C. Cover pool, open water, and postal events.
- D. This task has value to event hosts and members.
- E. Consider meet management software for postal and open water events. Pool event software is mature and many hosts have experience with a given application, therefore, we do not recommend writing pool event management software.

Module 7—National Office Support

Design and implementation of this module will depend on the implementation of Modules 1 & 3. Databases involved:

- A. Convention Delegates
- B. LMSC Officers
- C. Top Ten Subscriptions
- D. USMS National Administration

Module 8—Other Databases

Other USMS databases should be considered after the previous modules are done, unless circumstances change that require the project to change their status.

- A. Independent databases on the USMS server:
 - 1. Places to Swim

2. Calendar of Events

B. Databases already maintained by the Webmaster:

1. Aliases, Articles for Fitness and Sports Medicine Committees, Spokesperson Bios, LMSC Registration Summary, Pool and Long Distance records, On Line Entry for national championships, Meet Heat Sheets, Rosters, and Results for national championship meets, News Releases, ISHOF Nominating Committee record history database, Web Sites and Users on the USMS web site, MACA Web Sites of the Year, and Discussion Forums.
2. Databases maintained by individual USMS members to assist in committee work may be considered for addition to the database project. However, they will likely not be addressed during the next couple of years. The permanent ID and common formats for demographic information should be applied to these databases as soon as practical. These databases include ISHOF Nominating Committee All-Time Records (1972 to present), All-Time Relay Records, and National Championships Database.
3. Note: It is possible that the records databases will ultimately be converted to the larger database project. Design work on the H&A DB and the Records & TT DB will determine what is done.

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Appendix A - Roadmap

This roadmap was developed for the committee by Jim McCleery (former PNA LMSC webmaster), who was the original technical consultant to the committee. It is intended as a guide to the committee in preparation for implementation of the database system.

Roadmap

1. Define Mission Statement
 - a. *"The purpose of the USMS database project is to maintain the data we use to support our organization and the swimmers it serves."*
2. Define Mission Objectives
 - a. *The database shall support our needs as we grow*
 - b. *The software should be maintainable with reasonable costs to the corporation.*
 - c. *The system should be designed in a manner that will allow us to maintain the software and documentation with a minimum of disruption should a change in vendor be necessary.*
 - d. *The system should be designed to minimize our dependence on specific individuals for maintenance of the data.*
 - e. *The system should be designed so that portions of the database, such as Top Ten, will be available for search and display on the USMS web site.*
 - f. *The system should be designed so that portions of the database will be available for viewing and/or maintenance by authorized users.*
 - g. *The system should be easy to use so that updates can be done in a timely manner.*
 - h. *All swimmers should be identified in the database by a permanent swimmer id that will be common throughout the corporation (Appendix C).*
 - i. *The system should minimize the possibility of one swimmer being assigned multiple swimmer IDs*
 - j. *The system shall be designed to protect the privacy of members and users.*
 - k. *The system shall be designed so that it will be interactive with swim meet management software.*
 - l. *The system shall be designed so it contains features to maintain the security of the information maintained in the databases.*
3. Analyze the Current Database(s)
 - a. Identify all USMS databases (Done - see HOD report)
 - b. Which should be "controlled" by the USMS Corporation and which could be "farmed out"?
4. Create the Data Structures
 - a. Define tables and fields
 - i. Tables should represent only one subject
 - ii. Tables should have no duplicate fields
 - iii. Each field should store only a single value
 - b. Establish keys
 - c. Define field specifications for every field
 - d. NOTE: The key here is to use the master registration database as the "foundation" for the rest of the tables.
5. Determine and Establish the Table Relationships
 - a. Identify relationships
 - b. Establish the logical connection for each relationship

6. Determine and Define Business Rules
 - a. Limitations and requirements that are built into the database
 - b. Validation rules
 - c. NOTE: some Business Rules can be enforced by the database design others will have be enforced by the application.
7. Determine and Establishing Views
 - a. Determine the various ways that swimmers and officials wish to view the data in the database
 - b. Some users may only need to view fields in a single table while others may need to see data based on several tables at the same time
8. Review Data Integrity
 - a. Review each table
 - b. Review each field
 - c. Review each relationship
 - d. Review the business rules
9. Administration of contracts
10. Budgeting
 - a. RFP's
 - b. Bid evaluations
 - c. Documentation
 - d. User Manuals
 - e. Contracts
11. Implementation of Databases

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Appendix B - Staffing Considerations

Below is a chart which examines the pros and cons of the types of contractors that may be hired for the project. The three types are a) our current webmaster hired through single source contracting, b) in-house contractor hired through an RFP and bidding process, and c) out-source contractor hired through an RFP and bidding process.

The proposed Professional Management Guidelines (PMG), would mandate either an application and interview process or an RFP and bid process unless the House of Delegates approves an alternate selection process in advance. The proposed amendments to the PMG are in the convention packet under the annual report of the PMG Task Force.

Since we can obtain approval for an alternate selection process at convention, it is appropriate at this point in time to consider which alternative will serve this project best.

| Evaluation Criteria / Considerations | Webmaster | In-House | Out-Source |
|--|-----------|----------|------------|
| General Information | | | |
| Knowledge of USMS administrative and other needs | Y | ? | ? |
| USMS server knowledgeable | Y | N | N |
| USMS web site knowledgeable | Y | N | N |
| Web database knowledgeable | Y | Y | Y |
| Demonstrated capability to acquire knowledge | Y | ? | ? |
| Assurance of quality outcome from project | Y | ? | ? |
| Availability to begin work | ? | ? | ? |
| Exploration of multiple possibilities before hiring | N | Y | Y |
| Hiring Process Logistics & Costs | | | |
| Advertising in Swim, etc. | N | Y | Y |
| Bid evaluation and interview costs (time & money) | N | Y | Y |
| Contract creation costs (hiring expert legal counsel) | ? | Y | Y |
| Estimated time to begin project (if contractor is immediately available upon signing contract) | January | March | March |
| Project Start-up Logistics & Costs | | | |
| Education of contractor | N | Y | Y |
| Payment of contract administrator | N | Y | Y |