The ASF's Web-based Karst Index Database - A Brief Update

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INTRODUCTION

The Karst Index Database (KID) is a database of cave and karst features throughout Australia. The Web-based KID went online with most of the data available to anyone via a guest login in January 2001 in time for the ASF Conference at Bathurst. It is accessible on the WWW via any Web browser, including text-based browsers so users with vision impairment can access all functionality of the KID. You can find the KID at the ASF's Web site http://www.caves.org.au/

The data in the KID is a super-set of that published in the Australian Karst Index 1985 (1) but contains no information more recent than that. The current KID contains information on 6,692 caves with references to 925 articles, 192 organisations, 1,308 persons and 2,400 cave maps and covers 355 caving areas in Australia. The database itself consists of approximately 270 fields structured into 45 tables.

CONTEXT OF THE ASF's KID

The Union International de Speleologie Informatics Commission (UISIC) facilitates local and international exchange of data related to caves and karst by developing and publishing information standards related to cave and karst. The UISIC is a Commission of the Union Internationale de Speleologie (UIS) and is chaired by Peter Matthews. (see http://rubens.its.unimelb.edu.au/~pgm/uisic/)

Standards include definitions for cave and karst fields and suggested table structures for cave databases. The ASF's Web-based KID is the first Web-based database to implement these standards.

There are at least two other Web-based cave databases; a United Kingdom cave database (2) and a Czech cave database (3). The UK database appears to have a few dozen fields and about two thousand caves, the Czech database contains 479 caves and about a dozen fields per cave.

CURRENT STATUS

The KID has been working without any problems for two years. There have only been two brief periods of a few hours of downtime during this time; both caused by factors outside the ASF's control. Extra functionality has also been added by the original programmer and myself.

The KID has consistently been one of the most accessed sites within the caves.org.au domain, the "simple" and "standard" searches being the most used. Usage of both the ASF's Web site and the KID has been steadily increasing since both were launched. For the period of November 2002 a breakdown of KID accesses are given in the following table:

Location	**Accesses**
via ASF's Home page www.caves.org.au/	282
directly via www.caves.org.au/kid/	274
Simple Search	195
Standard Search	300
Longest & Deepest Search	28
The Top 10 Search	16
Advanced Search	105

A KID Access Group was set up in mid 2001 to provide assistance to ASF members, researchers, land managers, or government agencies who wish access to the few non-guest accessible fields in the KID and to decide if that access will be granted. This also separates the granting of access from the technical database administration side. This has worked very well. The members of this group are Ken Grimes, Andy Spate and Graeme Pilkington.

FUTURE PLANS

The present KID is a read-only system and over the next six months additional code will be added to the system to enable clubs to update present information and add new information via a Web-based interface. There will also be provision for uploading bulk data and for limited off-line data entry.

The following is the ASF's likely development schedule for 2003:

- February-April: Programming will start on the updatable KID. This is anticipated to take about three months. During this time testing of the code will be done and writing of user documentation for the updaters can commence.
- April-June: Writing final draft of documentation for the updaters. Three months is being allowed for this task however this will be ongoing for some time after that as we modify the documentation based on feedback from the first updaters. We will be using a test database to test the updating functionality and provide a safe environment for updaters to gain familiarity with the updating system where mistakes don't matter.
- June/July: Controlled entry of real data can begin.

By this time the ASF would like to have clubs ready with members keen to act as updaters. The ASF intends to provide documentation and training for club updaters.

The specification for the updatable KID includes requirements for:

- updating of caves from Cave Summary Forms;
- updating of areas from Area Summary Forms;
- updating of maps from Map Summary Forms;
- updating of persons and organisations;
- functionality for users to make queries about caves, maps, persons and organisations etc.;
- showing what changes have been made to the data so users and State Coordinators can easily identify what data has changed;
- output of filled-in Cave, Area and Map Summary Forms for checking, archiving and in-field use (I intend to do some of this aspect of the programming myself);
- import and export of CSV and possibly implementing KDI format for exchange of data;
- ability to enter and edit data off-line and later upload to the ASF KID;
- data attribution.

Data quality for fields is also recorded so that the accuracy of the entered data can be specified (eg. data quality for the ‘discovery date’ may be ‘probably correct’ while data quality for a cave's length may be ‘correct’). There are 27 available data quality fields varying from simple ranges such as correct to wrong to more complex statements about data accuracy.

The integrity of the data in the KID is of paramount importance and for this reason checking of all updates by independent checkers is part of the KID updating system so that the possibility introducing errors into KID is reduced. This also means that no single user is responsible for errors that get into the database. Errors can still make their way into any database so data history is recorded so that all changes can be traced back and mistakes corrected. This also extends to cover the data quality fields.

Data attribution will also be tracked so that newly entered or modified data is attributed to the organisation that produced that data.

DOCUMENTATION

Updaters will require documentation to assist them in understanding the overall KID system, the procedural aspects of field data collection, collation and updating and in understanding the many fields in the KID and their meaning. (for field definitions see UISIC document http://rubens.its.unimelb.edu.au/~pgm/uisic/exchange/atendefn.html)

A professional technical writer will be heading a small team of writers and users to write this documentation. Considerable skill and experience is required to write user manuals in an accurate and understandable way for users and we are fortunate to have a caver who normally works in this capacity who is prepared to put in their own time for this project.

REFERENCES

Australian Karst Index 1985, ASF Inc., Edited by Peter G. Matthews, ISBN 0 9588857 0 2.

The Cave Database. A UK cave database at http://www.cavedatabase.co.uk/caveintro.asp

The Czech Cave Database. A Czech cave database at http://yeti.wolf351.org/cave/

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