Occucoder V1.0 Data Sheet

Introduction
Occucoder is a software application that relates informally described occupations to standard occupations as published by the O*Net Center. The standard occupations are identified by their O*Net-SOC Occupation code, and described by their O*Net-SOC titles and descriptions. The results can be useful in identifying a proper occupation code for a person applying for unemployment Insurance (UI), for suggesting alternative occupations for a person's skill set, for research purposes, and other uses are also possible.

Occucoder is suitable for use in personal interactions, automated systems, and for help desk style support.

Features
- Accepts query with job title and optional description, returns O*Net-SOC standard occupations matching the query.
- Accepts partial O*Net-SOC Occupation Code, returns all matching occupations.
- Guaranteed to return a match with highest score when the submitted title exactly matches an official O*Net-SOC title.
- Returns version identifier for O*Net-SOC database in use.
- Logs queries on a per-query or global basis.
- Database version configurable via a text file.
- Default values for optional query parameters configurable via a text file.
- Simple query and response message formats.
- Backwards compatibility with O*Net-SOC Autocoder V1.x and V2.x, with the use of an available helper application.

Performance
Performance depends on the host computer, network and query characteristics. The performance described here is typical for a computer with 2 GB RAM and an effective clock speed of 2.2 GHz, when network latencies do not play a role.

Characteristic	Value	Note
Max throughput	18000 queries/hour	Measured using a randomized, multi-threaded test to simulate a busy help desk environment *
Latency	1. < 2 seconds 2. sub-second	1. This is the maximum delay typically seen in the help desk simulation test. Actual delays are distributed statistically. * 2. For individual queries when the system is not busy.

* Testing to establish these values is done with a standardized set of queries, to provide a stable baseline. Queries with different characteristics may give different results.

Computing Environment
Occucoder requires a computer having Java 1.5 or higher, Tomcat 5.5 or higher, and a MySQL server. It has been tested successfully under Windows XP, Red Hat Linux, OpenSUSE linux, and Ubuntu linux. Occucoder is expected to run on any computer which can host the required software environment. It can be run in a virtual computer.

Occucoder is a networked application. It accepts queries from the network, and sends responses back

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over the network.

Occucoder should be hosted on a computer that has at least 2 GB of RAM, and a CPU clock speed of at least 2 GHz. It has been run on a linux computer with as little as 750 MG of RAM. However, the recommended amount of memory allows other processes to run at the same time, and thus provides an operating margin. Similarly, Occucoder could be run on a slower computer, if a lower throughput were acceptable.

Security
Occucoder is intended to be run in a protected intranet environment. It has not been hardened against the general Internet. However, the Tomcat system has good inherent security, Occucoder contains no privileged information, and the database is used in a read-only mode.

I/O
Occucoder's message format is simple and easy to work with. Queries are simple HTML forms, submitted preferably by the POST method. An Occucoder response is an XML document in the ATOM format. ATOM is an IETF standard (RFC 4287), and is easy to process and display. The use of the ATOM format allows results to be viewed in a standard news reader if desired.

Simple queries can be made directly from a web browser by typing into the address bar.

Schema and WSDL files are provided as an aid for developing web service style applications.

Compatibility With Autocoder
Occucoder is backwards compatible with Autocoder V 1.x and V2.x with the help of an helper application, available separately. Occucoder will run on any host computer that can run Autocoder V1.x or V2.x, except that the version of Java must be at least version 1.5, which may require an upgrade.

Occucoder has additional capabilities that cannot be accessed by the helper program.

Testing Provisions
A suite of test programs, with corresponding User Guides, is available. Test programs include stress tests, batch processing, and an in-browser query application.