If you would like to know more about **Nuggets**, go to **www.myNuggets.net**.

YOUR QUESTIONS DESERVE ANSWERS

Have you ever sat on a train and forgotten to pack the note that tells you the address of your hotel? Or have you recently argued with a friend in the pub about where Picasso was born? We don't usually carry encyclopedias and yellow pages around, but there is help in sight…

The Nuggets mobile search engine allows you to access Internet content in question & answer form from your ordinary GSM mobile across the UK. Simply send your questions as text message to Nuggets, and it responds with an answer within seconds, for just 50p.

QUESTIONS USERS ASK

ASK What's the current population of Scotland?

ASK When was the M1 Motorway opened?

ASK Who was the president of Pakistan in 1962?

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NUGGETS

THE AUTOMATIC Q&A SERVICE FOR YOUR MOBILE

A service brought to you by the language technology experts from Linguit GmbH

NUGGETS: THE UNIQUE SOLUTION

Nuggets is the **first fully-automated question answering service for mobile phones**. It works via ordinary SMS, so no expensive devices like PDAs or smartphones are necessary, and no cumbersome WAP access is required.

Nuggets question answering technology is based on Linguit's proprietary cutting-edge language technology components, which bridge the gap between human language and the computer.

Automation confers three major benefits:

- **speed** (around 10 seconds per question response time);

- **scalablility** (human-based services would have difficulty handling rapid fluctuations in demand); and

- **cost-effectiveness** (we currently charge 50p per answer).

There exist services that charge £1 or more per question and use human researchers to answer questions, but such solutions are not as cost-effective as an automated service.

HOW NUGGETS WORKS

1. A mobile phone user sends a text message (SMS) containing a question to **88600** (questions are prefixed by the keyword ‚ask', e.g. „**Ask where was Picasso born?**").

2. The SMS gets sent to a SMS-HTTP gateway in London, from where it is relayed to a German datacenter.

3. The Nuggets software, driven by leading-edge natural language processing technology, analyzes the question and constructs a set of search engine queries from it.

4. The queries are fed into the Yahoo! Search engine and the resulting pages are collected.

5. Based on Nuggets' understanding of the question, the pages are searched for the most likely answer to the question.

6. The answer is formatted with some context and send from the German datacenter hosting Nuggets to the London-based HTTP-SMS gateway.

A reverse-billing SMS with the answer (Picasso was born in **Malaga**) is created and send back to the user's mobile phone.

The whole process takes only 10 seconds and does not involve any human intervention.

LANGUAGE TECHNOLOGY WINS

On the Web, keyboard based search engines like Yahoo! are the most commonly used means of searching for information. However, mobile phones have a very constrained user interface. Returning lists of hyperlinks to documents is therefore not a feasible option. Linguit's technology for understanding language helps to pinpoint the exact answer to the questions being posed. We analyse the questions linguistically to understand the user's information need and filter out non-answers. For example, Nuggets is aware of the fact that a *when*-questions are typically answered by date/time information, whereas traditional search engines have no notion of different types of information (they are purely keyword based).

INFRASTRUCTURE

The Nuggets software comprises two parts, which can be licensed separately: (1) The mobile infrastructure is in charge of sending and receiving SMS to and from the HTTP-SMS gateway, and (2) the question answering technology, which finds the most likely answer with the aid of a search engine (currently, Yahoo! and Google are supported as backends; others can easily be added).

Currently, the Nuggets engine operates on a single Intel-based multiprocessor server running Debian GNU/Linux.

NUGGETS BENEFITS

For the user: find information in English quickly from anywhere at a low price.

For corporate customers: get access to their knowledge bases using natural language text messages from anywhere via ordinary mobile phones, without a human in the loop.

COMPANY PROFILE

Linguit GmbH was founded in 2001 by Jochen Leidner, a former software developer with SAP AG, and is privately owned. Mr. Leidner is an expert in language technology and holds masters degrees in computational linguistics and computer speech, text and Internet technology from the universities of Erlangen (Germany) and

Cambridge (UK), respectively. His special areas of interest are automatic question answering and information extraction. He is a member of ACL, IEEE, BCS, and ACM and is currently pursuing a PhD at the University of Edinburgh in information extraction. In 2004, he won the SIGIR Doctoral Consortium Award, and his university team ranked top in the international cross-lingual question answering evaluation CLEF 2004 (French to English).

Nuggets is a service beta-launched in the UK on 8 August 2004.

Text your question to: 88600