Collaborative translation web service

1. Description

projectiondesign is a Norwegian company that designs, manufactures and markets a range of high performance projectors for professional, business and consumer applications. Amongst its core markets are high resolution scientific visualisation and simulation, medical imaging, e-cinema and public displays. Demonstrating commitment to the development of the display industry, projectiondesign was first to market with 1080p and the more recent WUXGA resolution projectors based on Texas Instruments DLP technology, and the entire professional product range is warranted for 24/7 usage. projectiondesign is based in Fredrikstad (Norway), and has offices in Gothenburg, Singapore, Milano, Stuttgart, Bilbao, Bombay, Cape Town, London and New York.
Since our projectors are sold in many different regions of the world, we're currently supporting thirteen different languages in our on-screen-display (OSD). Maintaining this high number of concurrent translations using e-mail, spreadsheets and the like, causes logistical difficulties and room for human error.
The purpose of this assignment is to create a web service for collaborative translation of an arbitrary collection of texts, to ease the logistical process of creating, updating and maintaining multiple translations.

1.1 Translation sheets

The web service will be able to work with any number of translation sheets mapping actual translations to symbolic names:

	language 1	language 2	...	language N
symbolic name 1				
symbolic name 2				
...				
symbolic name M				

These sheets will be cascaded in such a manner that texts may be defined in the first sheet but overridden in a later sheet.
Example:
Sheet cascade: projectiondesign base + OEM modifications

2. Requirements

2.1 Programming language

PHP and SQL

2.2 Back end storage

SQL database

2.3 Users

The service must implement user access control in two levels:
Globally

- Administer sheets (create/rename/delete etc)
- Administer users
- Administer symbolic names

Per sheet

- Read
- Suggest (suggest new translation)
- Write (accept/reject suggestions and commit to the actual sheet)
- Add/remove languages
- Add/remove symbolic names
- Administer permissions

2.4 Translation sheets

2.4.1 Languages

A given translation sheet has a number of languages. A user with sufficient rights may add or remove languages from the translation sheet. A language may be marked as required in a sheet to let the system know that all symbolic names in this sheet for this language must have a translation.

2.4.2 Symbolic name

A given translation sheet has a number of symbolic names. A user with sufficient rights may add or remove symbolic names from the translation sheet.

2.4.3 Text

A text is a specific translation of a given symbolic name and a given language in a given translation sheet. Not all translation sheet cells needs to be defined.
Old data must be retained for revision control.

2.4.4 Description

Field containing a description of a given text

2.4.5 Suggestions

Users with sufficient rights must have the opportunity to:

- Suggest new translation
- Notify possible translation issue

2.4.6 Accept/reject

Users with sufficient rights must have the opportunity to:

- Accept/reject suggestions

2.4.7 Comments

Comments must be presented in the text-view

2.5 Extraction API

Web service (WSDL compliant) to extract data from a given sheet at a given timestamp,

2.6 Character encoding

The entire web service (both front end and back end) must use UTF-8 character encoding.

2.7 Reports

Outstanding translations

2.8 Implementation

It is likely that projectiondesign will need to add/change system behavior at a later time. Hence, the implementation must be done as structured as possible, having abstraction layers for different parts of the solution. I.e. user authentication abstraction, database abstraction, etc. If the candidate(s) want, they are free to choose a framework to accomplish these tasks. For instance Zend Framework, CakePHP or the like.

3. Extra tasks

If the student candidate(s) want/have time, several areas of the web service may be improved.

3.1 Reporting

3.2 PC Extraction application