

Project

[Squeak](#) is an open-source multi-media Smalltalk flavor available on several platforms. Since the 3.8 version, Squeak is obtainable in several languages : english, german, french, spanish, japanese, ... To achieve that, a framework of application has been developed by Ohshima Yoshiki (View Point Research Institute) that allows to translate each english sentence of the interface, as well as UI tools to ease the translation task. The current translation framework still suffers from several drawbacks that we would like to solve in this project with a more modular approach. Moreover, the translation model is still rather rudimentary. The available translations are dispersed among the various versions of Squeak: 3.9, SqueakLand, OLPC, Croquet, ... A better software localization support should be a real improvement for Squeak. Work will be achieved in collaboration with the squeak-dev mailing list in order to define the needs and the solutions. Work will have to be published on SqueakSource regularly and I will have to submit reports on the mailing list.

Implementation

This project is about designing a proposal for a better software localization support for Squeak: Currently, the model is really simple: Each associated sentences with the key word 'translated' are translated from a suitable dictionary for the selected language.

- In order to solve the dispersed translation problem, one solution could be to have a central repository for all the translations. In this way, all Squeak versions will use the same translation dictionary.
- The non-modularity of the system comes from the fact that the translation is done inside the whole image and not for each package. To improve this system, the translation has to be done on a component instead of the complete Squeak image. Having all language translations in the image appears to be bad. Moreover, this project is concentrated on the model, the graphical interface part could be done in an other project.
- One problem of the current implementation is that the key to find the sentence in the dictionary is the english sentence. It would be better to use an independant langage key.
- 'GetText' is the GNU internationalization (i18n) data format which is used for writing multilingual programs. This mechanism appears to be really good and could be used in this case.
- It could be good to improve the dictionary in order to have a depending context culture translation instead of a simple sentence for sentence one. For example, colour meanings are different from a culture to another. In the same way, the word order or singular/plural changes from a language to another.
- It is necessary to envisage tools to also convert the existing translations in the new model.

Benefits to the community

Squeak is a very good tool for beginner developpers, but the translation gap is often a problem for students that are not fluent in english. Although Squeak is now available in several languages, the rudimentary translation model (sentence

for sentence) is not satisfying enough. A multi-language platform becomes accessible by all and becomes thus increasingly popular only if the translation model is good. Moreover, Squeak is integrated in the [OLPC's project](#), that is why a good localization support (and more especially Squeak's EToys which will be used by children) appears to be essential.

Schedule

The first part of work will consist in a study of the current Squeak translation system, then the next task is to examine the multilingual support used in other versions of Smalltalk like VisualWorks, or in other programming languages like Java, Python and Ruby. At the next stage, a proposal will be made with a first Squeak prototype. I will adopt a test driven development approach for his work.

About me

My name is Jérôme Chauveau, and I am a 22-year old student at Caen University in Calvados, France. I am studying for a Computer Science Master's Degree. I think that my profile would be interesting for this project for two main reasons. First, I have learned to use the Squeak Environnement during my Higher National Diploma where I have programmed with this platform. Secondly, this year, I took an option named "Computational Linguistic" where I am learning how to translate texts and applications in multiple languages.

I think that nowadays translation processing is an important stake for an application such as Squeak. I am well-motivated to take part to this spot because I think that Squeak deserves to be used by more and more people and programmers.