

## Fenestra Summary

Version 0.8

### Project goal:

Allow people with visual disabilities to be fully integrated into the educational process with normally sighted people.

### Problem definition:

During the frequent consultations of development team with the representatives of the target auditorium, organization "Vikno v svit", the following main problems were uncovered:

- Modern interfaces are too rich with graphics and animation (especially web pages) which makes them almost useless for visually disabled people
- Special devices for such users are too expensive
- Special organizations, which was created to help people with visual disabilities, unintentionally isolate such people from other, which create severe social problem for them

### Key functionality of "Fenestra":

- Fully controllable voice interface: voice synthesis and recognition
- Interaction with the program using fingertips reader (1 or 2 for better experience)
- Special browser for visually disabled people which can use websites XML templates to create more convenient insonation of web pages
- Special game, Fenestra Risk, which can be played by both people with visual disabilities and normally sighted people simultaneously.
- Ability to conduct lessons and tests remotely
- Ability to use standard presentations or html pages as lessons material
- Real time audio and video transmission

Project Fenestra was created for both visually disabled and normally sighted people. Depending on the current user the program can work either in usual or special mode (for visually disabled people). In the mode for normally sighted people the system has nice and simple interface based on the Widows Presentation Foundation. Audio, video transition and remote lessons are available in both modes.

In the special mode the system has voice interface which can be fully controlled by the user. The problem of entering data and interaction with the system by visually disabled people is solved using voice recognition and interacting with the help of fingertips reader. Since each human has unique fingertips on each finger it allows wide range of possibilities for interacting with the program. In the case of visually disabled people it is even more convenient since such people got used to perceive tactile information very well.

It is not a secret that Internet is a very important source of educational information. That is why Fenestra has a special browser for visually disabled people. It can work with usual and adapted web pages. In the case of not adapted page it parses HTML content of the page and tries it's best to insonate it. However it becomes really efficient in the case of adapted web page. For the page to become adapted the web master doesn't have to change its source. It is necessary to create a template for this page in xml format using regular expressions. The rules for creating these templates are very simple and flexible (can be found on <http://www.consorto.com> )