Key Features of S.M.i.L.E.

:: **Giving teachers the power to create exciting three-dimensional educational games** and worlds according to their preferences in a fast and straightforward way, without requiring any programming or graphic skills.

:: Interactive **forming of teams from learners handicapped or not**, in which they compete by combining their strengths and weaknesses – resulting in a better education for all.

:: **Adaptability of interfaces** according to users' preferences or handicap, and educational games according to every learner's individual level of knowledge and game progress.

:: **Support of collaborative work** among teachers via the Shared Knowledge Base.

:: **Separation of the games' representation and content from their realization,** which enables to realize a countless variety of educational games, including numerous versions of content presentation not just in-game, but also separately with additional features.

:: **Flexibility for all age groups,** meaning that the created educational games can be made attractive for small children, teenagers, adults and even seniors – for everyone.

MODERN WAY OF EDUCATION

CAFFEINE 2 CODE

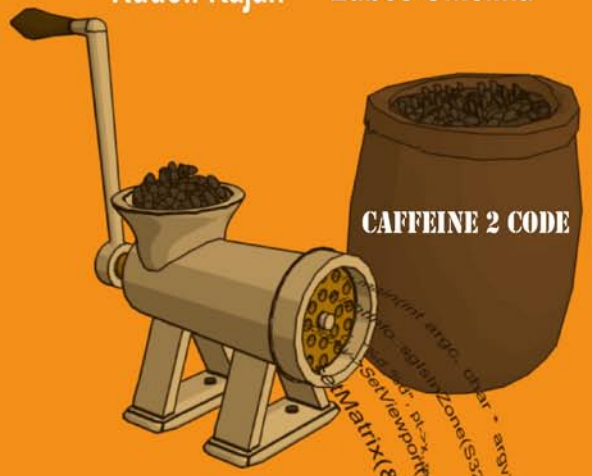
TEAM

Marko Divéky

Peter Jurnečka

prof. Mária Bieliková

Rudolf Kajan Ľuboš Omelina

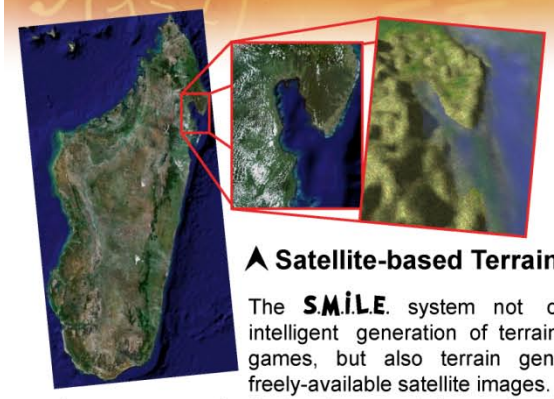


EDUCATION WITH A SMILE :-)

Korea '07 imagine cup

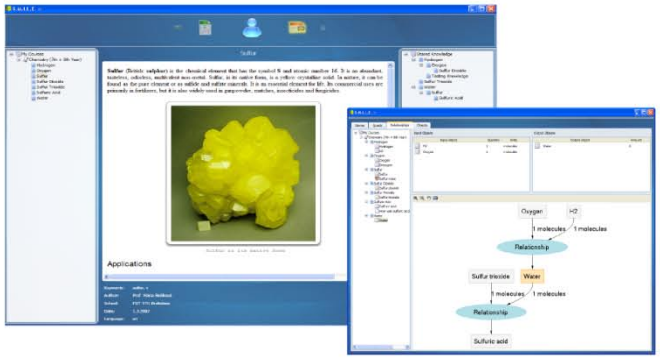
S.M.i.L.E.

SMART MULTIPURPOSE
INTERACTIVE LEARNING ENVIRONMENT



Satellite-based Terrain Generation

The **S.M.I.L.E.** system not only features an intelligent generation of terrains for educational games, but also terrain generation based on freely-available satellite images. The above picture shows an example of a terrain generated according to a satellite image of Madagascar, which is shown left. A selected bay's detail is located in the center and its in-game appearance is shown on the right.

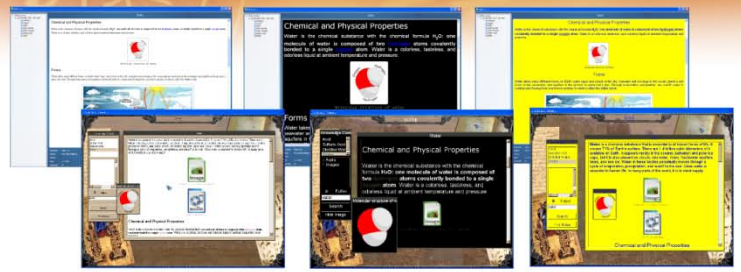


Visual Editors for Teachers

Teachers can work with two editors – the Knowledge Editor and the Game Editor. The Knowledge Editor, which is shown left, is a full-featured WYSIWYG editor aimed at quick and comfortable creation of knowledge materials stored in the **S.M.I.L.E.** system. Teachers are able to easily (literally automatically) create three-dimensional multiplayer educational games based on the stored materials via the Game Editor, shown right.

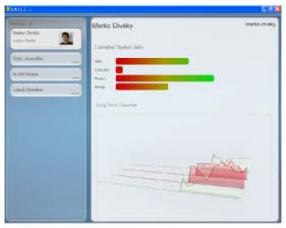
RFID-based System Login

The **S.M.I.L.E.** system enables handicapped users (and also other users) to easily and comfortably login via their RFID cards.



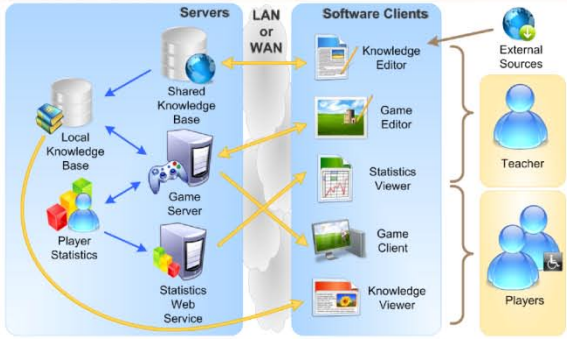
Adaptable Formatting of Knowledge Materials

All knowledge materials stored in the **S.M.I.L.E.** system are visually formatted according to every user's individual preferences. Moreover, these materials are available directly during gameplay. The above picture shows an example of study materials formatted for vision-handicapped (center) and color blind (right) users.



Estimation of Learners' Level of Knowledge

While playing the created educational games, statistical information about every player's game progress is being stored and evaluated. This information enables to estimate the level of knowledge for each and every learner and present the results in the form of graphs and tables to teachers, learners, and also to their parents.

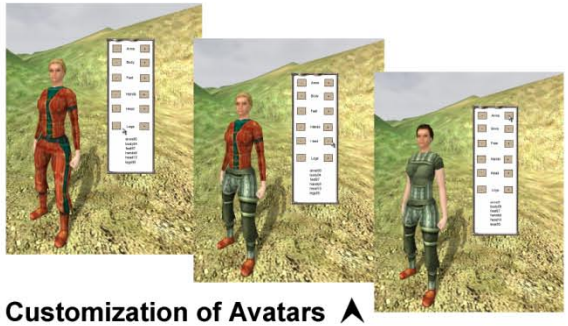


System Overview

The **S.M.I.L.E.** system utilizes a modular architecture and contains a number of different components that have been implemented using the latest software technologies and development tools.

Focus on Handicapped Users

Specialized interfaces enable learners with disabilities to participate in the educational process by playing educational games with their able-bodied colleagues, and thus to socialize with the community.



Customization of Avatars

Thanks to the fact that all in-game characters representing players (avatars) are fully customizable, learners easily create a positive relationship with the virtual world of educational games, and thus find solving educational quests more motivating. What is more, learners are able to equip their avatars with their own faces.