



The AsTeRICS Academy



Prosperity4All



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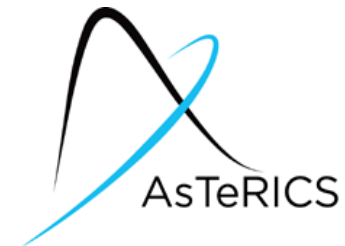
- Vienna's first University of Applied Sciences and Austria's biggest University of Applied Sciences for technical studies
- Founded in 1994
- Austria's first University of Applied Sciences implementing the Bachelor/Master system
- Currently 12 Bachelor and 17 Master Programs
- About 4.300 graduates and 3.000 students
- Approximately 500 full- and part-time staff



Assistive Technologies (AT)

Ambient Assisted Living (AAL)

- New focus in the Department of Embedded Systems
- New study program in fall 2015
 “Smart Homes and Assistive Technology”
- 7 Research projects in the topic
 - AsTeRICS
 - Founded Professorship Ambient Assistive Technologies (AAT)
 - modulAAR
 - Prosperity4All
 - ULEA
 - VitAL – assistive domoTics for Autonomous Living
 - AsteRICS Academy



Objectives 2013-2016:

Development and implementation of educational strategies for cross-cultural education in Assistive Technologies (AT)

- International Networking and Workshops
- Organisation of a summer school for Assistive Technology in Vienna
- Development of Assistive Tools

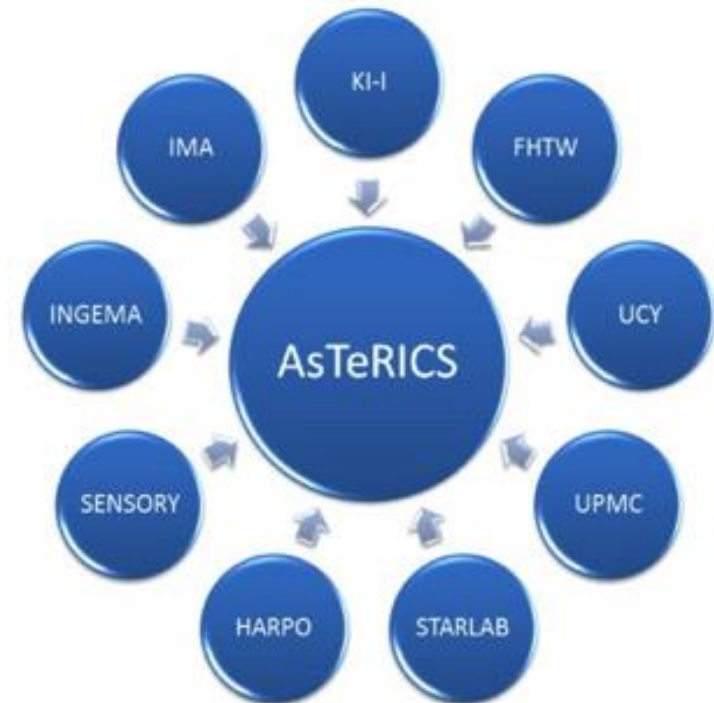


<http://www.asterics-academy.net>

Funded by City of Vienna
(MA23 Project 14-02)

The AsTeRICS Project

FP-7 funded EU-STREP-Project
2010-2013

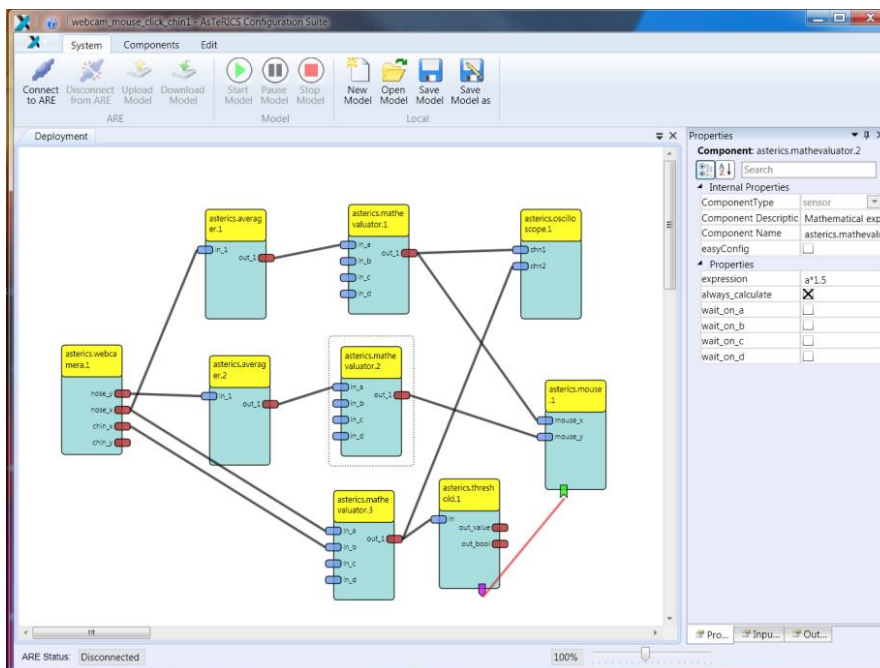


AsTeRICS Project was implemented 2010-2013 by 9 European partner organisations and was partially funded by European Commission under the 7th framework programme

AsTeRICS: graphical design of AT-solutions

AsTeRICS Configuration Suite

- Assistive solutions can be created via graphical connection of different plugins using the ACS editor
- The created model is fully functional and can be deployed (and easily adapted) at the user's site



- Cut / Copy / Paste / Group
- Integrated Help System
- GUI designer for user interface creation
- JAVA framework for runtime environment
- Windows and Linux (partly) supported

AsTeRICS offers currently about 160 different plugins for input, processing and output. This makes it a versatile construction set for rapid prototyping of AT solutions:

- Webcam-based facetracking
- Bioelectric interfaces: OpenEEG, OpenVibe
- Support for Microsoft's Kinect 3D-camera
- Capturing / remapping keyboard and mouse input
- Keystroke creation and mouse emulation
- Arduino support for input / output
- Environmental control system support
- Accessible gaming interfaces



- Abotic Door Opener Integration
- KNX / FS20 standards
- Connected via the GPIO module
- HiFi / Stereo / DVD / TV via Infrared
- Pneumatic Gripper actuator for mouth sticks



- complete input flexibility via desired sensors and on-screen-keyboard grids / scanning

- Windows Mobile and Android Smart Phone support
- Make / Accept Calls, Send / Receive SMS
- GSM USB Modem Integration
- Usage of Smart Phone as Sensor (e.g. Accelerometer) or configurable Touch Pad (multitouch / gestures)
- On-Screen-Keyboard with scanning for Android



Control of a toy helicopter by a tetraplegic user

- Infrared control command generation by IR-module
- Integration of the wheelchair's bluetooth joystick (via mouse capture plugin)
- EMG or Sip/Puff sensor for controlling up / down
- 4 degrees of freedom



Video: AsTeRICS-based accessible toys



Prosperity4All

- Create a **Global Public Inclusive Infrastructure (GPII)**
- People with disabilities
 - Find AT-products that match a user's needs
 - Use the GPII to enable devices to automatically adapt to users's needs (e.g. screen magnification)
- AT companies
 - Create, test and sell AT solutions
 - Easier
 - Faster
 - Cheaper



Unfortunately, we don't all have...

Prosperity4All – Developer Space

- Make it easier to create accessible products and services
- Repository of Building Blocks:
 - Libraries
 - Frameworks
 - Tutorials
 - Assistance on Demand (AoD) infrastructure
(e.g. On-Demand Sign-language translation)
- Contains selected building blocks of AsTeRICS
 - Face tracking
 - Smart Home integration
 - ...