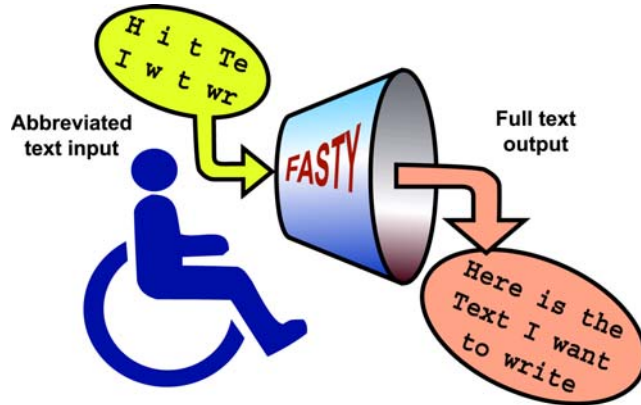
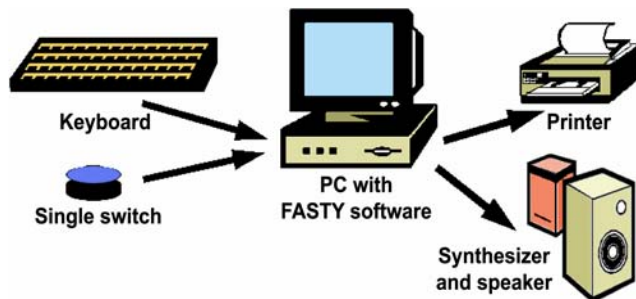


## FASTY offers:

Faster generation of written or synthetically spoken text for disabled persons



## Predictive typing with the FASTY system:



## Project partner

### Fortec Rehabilitation Technology Group

Vienna, Austria

Contact: Dr. Wolfgang Zagler, G. Seisenbacher, C. Beck  
Tel: +43 1 58801-42911  
Fax: +43 1 58801-42999  
E-mail: fasty-fortec@fortec.tuwien.ac.at

### Österr. Forschungsinst. für Artificial Intelligence

Vienna, Austria

Contact: Dr. Ernst Buchberger Prof. Dr. Harald Trost  
Tel: +43 1 4277 631-21  
Fax: +43 1 4277 9631  
E-mail: fasty-ofai@fortec.tuwien.ac.at

### Forschungsinst. Technologie- Behindertenhilfe

Wetter/Ruhr, Germany

Contact: Dr. Helmut Heck  
Tel: +49 2335 9681-0  
Fax: +49 2335 9681-19  
E-mail: fasty-ftb@fortec.tuwien.ac.at

### Uppsala University – Dep. of Linguistics and Philology

Uppsala, Sweden

Contact: Prof. Anna Sägval-Hein  
Tel: +46 18 471-1412  
Fax: +46 18 471-1416  
E-mail: fasty-uu@fortec.tuwien.ac.at

### Multitel ASBL

Mons, Belgium

Contact: Dr. Ir. Stéphane Deketelaere  
Tel: +32 65 374772  
Fax: +32 65 374729  
E-mail: fasty-mult@fortec.tuwien.ac.at

### IGEL Elektronische Kommunikationshilfen GmbH

Bremen, Germany

Contact: Dipl.-Ing. Holger Neumann  
Tel: +49 421 4178517  
Fax: +49 421 4178520  
E-mail: fasty-igel@fortec.tuwien.ac.at

### Elisabethinum Axams

Axams, Austria

Contact: Bernhard Frischmann, Stefan Mina  
Tel: +43 5234 68277-310  
Fax: +43 5234 68979  
E-mail: fasty-eli@fortec.tuwien.ac.at

### Ingenieurbüro für Kunst und Technik II

Berlin, Germany

Contact: Ing. Jörg-Michael Lindemann  
Tel: +49 30 8523332  
Fax: +49 30 8523332  
E-mail: fasty-ikut@fortec.tuwien.ac.at

### Facultés universitaires Notre-Dame de la Paix

Namur, Belgium

Contact: Geneviève Bazier, Jean Pierre Peters, Bruno Plumet  
Tel: +32 81 724430  
Fax: +32 81 724397  
E-mail: fasty-fundp@fortec.tuwien.ac.at

# Faster Typing for Disabled Persons



January 2001 – March 2004

<http://www.fortec.tuwien.ac.at/fasty>  
E-mail: fasty-fortec@fortec.tuwien.ac.at



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## Objectives

The objective of FASTY is the creation of a system for increasing the text generation speed of disabled people by predictive typing and an adaptable user interface including advanced input devices.

The system will be developed for German, French, Dutch and Swedish. These languages differ from English in that they are highly inflecting: German, Dutch and Swedish, in addition, highly compounding. Thus existing prediction methods developed for English are not satisfactory. The general principles of FASTY will be applicable to most European languages.

FASTY will assist motor, speech, learning and language impaired people to produce texts faster, with less effort and with improved spelling and grammar. FASTY will be configurable for different types of disabilities, different communication settings and different European languages. It will allow easier access to PC based office systems and to modern forms of IT communication including voice communication. Thus FASTY will contribute to ensure equal access to the Information Society for all Citizens.

FASTY is an intelligent system using methods of Natural Language Processing and Artificial Intelligence, self adaptive user inter-

faces and rich linguistic resources such as grammars and dictionaries.

## Description of the Work

FASTY takes a generic approach to multilinguality. The feasibility and portability of this approach is demonstrated by the parallel implementation of systems for four different languages: German, Dutch, French and Swedish. A language independent prediction software makes a clear distinction between the predictor, the linguistic resources, and the user interface. This will result in a product with potential application to many European languages without sacrificing performance.

Innovative prediction methods directed towards the prediction problems caused by highly inflecting and compounding languages are developed. The predictions are filtered by a grammar before they are presented to the user. Hereby only grammatically well-formed predictions are proposed. Further, new methods for predicting compounds are introduced. The success of the predictions is measured in terms of key-stroke-savings rate.

A user panel ensures strong user involvement. The panel includes primary users as well as secondary users such as pedagogues, therapists, carers and technical ad-

visors. The user needs have been analysed in intensive interaction with the user panel, and by means of a User Ability Assessment Tool that was developed in the project. The user panel will also play an important role in the verification and validation of the systems.

The user interface design aims at a wide coverage of users. Self adapting parameters and flexible configuration tools ensure a high degree of usability, user friendliness and accessibility. Innovative and ergonomic user interfaces for different input methods are developed in close connection with the predictor. Hereby time and effort for selecting a prediction suggested by the system is minimised. In addition, a special pressure sensitive switch/keyboard will be developed to improve the user interface further. To bring further help to the communication, FASTY is also provided with a vocal synthesis.

Dissemination and exploitation play a central role in the project. A Technological Implementation Plan (TIP) is being developed as a basis for an exploitation plan. Also, a FASTY Interest Group will be founded to support exploitation and further development of the project results after the project is completed.