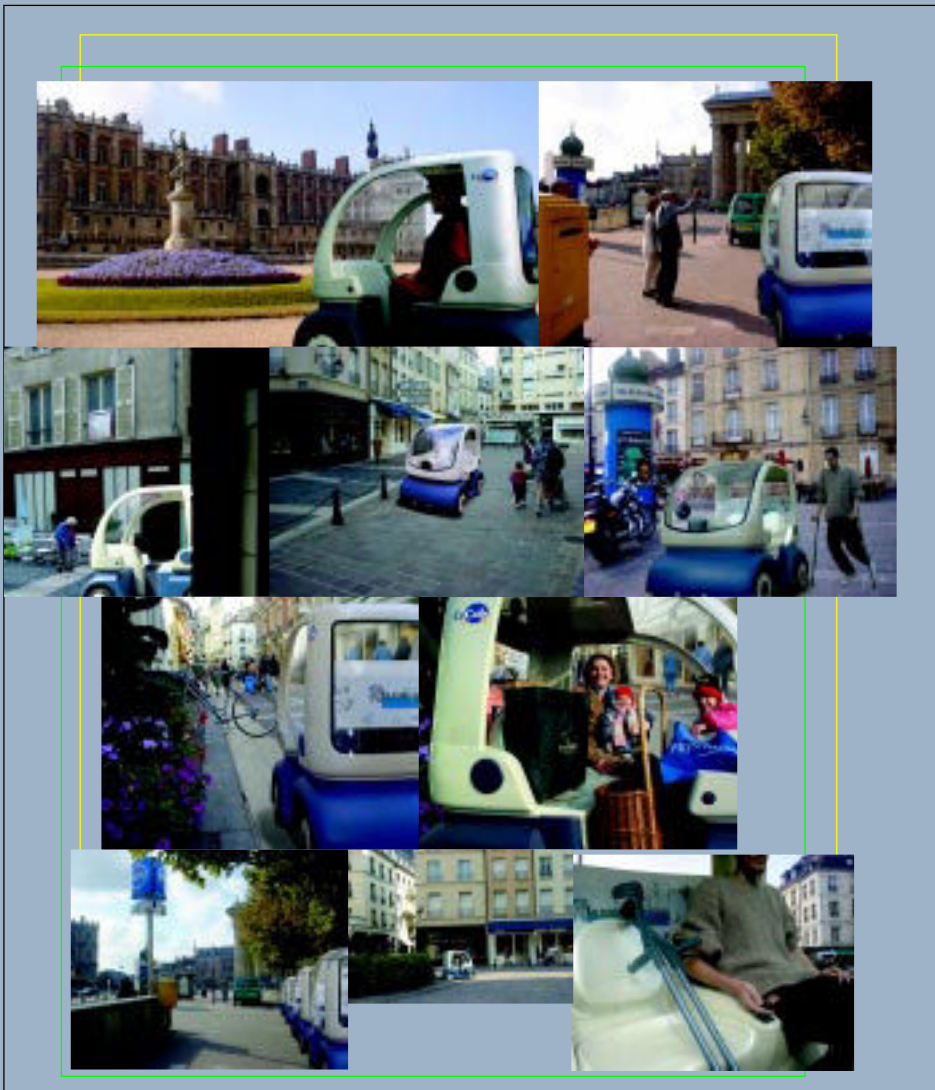




Self-service vehicles for the cities of tomorrow



CyCab

Self-service vehicles for the cities of tomorrow

This new public transportation system is based on a fleet of small electric vehicles specifically designed for zones with limited access to regular automobiles :

- historic city centers
- airports and train stations
- university campuses
- resorts

These vehicles are easy to use by a large population :

- access control by smart card
- simple manual control through a joystick
- door to door service
- automatic parking and recharging
- multimedia information terminal



CyCab

A large R&D program

The researchers of INRIA and INRETS are working since 1991 on this new intelligent transportation system for the cities of tomorrow. They study in particular two different concepts : car-sharing and the intelligent vehicle.

Car-sharing has been developed with industrial partners in the Praxitele project which is now operational in the city of Saint-Quentin-en-Yvelines with 50 electric cars from Renault.

The partners were :

- CGFTE, a transit operator
- Dassault Electronique
- EDF, the electric utility company
- Renault

The intelligent vehicle has been studied by INRIA with various computer techniques to move them automatically. In 1994, a concept of platooning has been demonstrated on electric cars with one single driver. In 1997, a new vehicle called the CyCab, designed specifically for car-free cities, has been presented to the public. This vehicle, developed with the assistance of EDF, RATP and Andruet S.A., is entirely under computer control and can be driven manually with a joystick, or can be driven automatically under various modes.

The company AVENIR-HAVAS (a subsidiary of the VIVENDI group), is now studying with a number of cities, the possibility to implement a transportation system based on these vehicles. The objective is to limit the use of private cars in cities by offering an attractive alternative in terms of service, lack of noise and pollution, reduced parking space, and better use of energy



CyCab

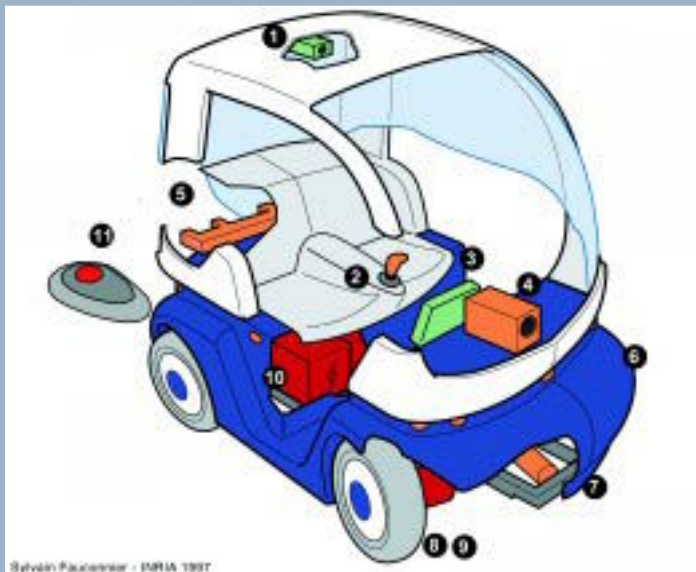
Technical specifications of the CyCab

Length 1.9m
Width 1.2 m
Weight 300 kg

Power : 4 x 1 kW electric motors
4 wheel-drive, 4 wheel-steer
Max. speed 30 km/h
Range : 40 km

Capacity : 2 adults and 2 children

Manual driving with joystick
Teleoperated operation
Full automatic operation
Induction charging
Smart card access



Sylvain Fauconnier - INRIA 1997

- 1- CCD camera for remote control
- 2- Joystick for manual driving
- 3- Multimedia terminal
- 4- Linear camera for platoon driving
- 5- Infrared targets for platoon driving
- 6- Ultrasonic sensors for collision avoidance
- 7- Steering actuator
- 8- One electric drive motor per wheel
- 9- One electric brake motor per wheel
- 10- Four lead-acid batteries and electronic management
- 11- Induction charger at parking location

For more informations:

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