



INTERACTION ENGINEERING

THE LABORATORY OFFERS THE FOLLOWING RESEARCH ACTIVITIES

Design, prototyping, and development of hardware, software, and mechanical components, from web to embedded and mechatronic systems;

Development of integrated Internet of Things solutions, from the design of hardware/firmware to the creation of user interfaces to control connected devices;

Development of mobile applications for iOS, Windows Mobile and Android;

Networking (Ethernet, CAN, FlexRay, LIN, etc.) Real Time systems, ISOBUS systems (ISO11783 for the agricultural sector);

Design and development of distributed systems;

User needs and requirements analysis: collection of preferences and habits for specific user categories;

Organization of interactive design workshops where users are directly involved in the design process;

Task analysis and function allocation to identify the

structure of interaction and plan its re-design;

Usability evaluation: expert methods, experimental techniques for modeling and evaluation of human-machine interaction systems;

Design of conceptual models: identification of the interface architecture based on each specific display, selection of the most effective control devices, definition of innovative interaction and information management strategies:

- Element sketching
- Design and optimization of the display layout
- Look & Feel
- Concept realization and evaluation

- Prototyping

- Graphics specifications

Drafting and management of research and development project proposals, both at national and international level.

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The senior and junior researchers employed in the technical board of the laboratory have the following competencies:

- C Firmware development
- C++/Qt development
- SW design using Altia
- SW design using Matlab/simulink
- SW design using Kanzi
- SW design using Labview
- Hardware design

The senior and junior researchers employed in the Ergonomics and Human Factors area of the Laboratory

possess the following related expertise:

- Ergonomics and Human Factors knowledge
- User Interface design and development
- Expert Usability Evaluations
- User Testing
- User Interface Design

As for the fundraising area, the researchers provide the following expertise:

- Drafting of national and international research project proposals
- Administrative and technical management of ongoing projects

LIST OF INSTRUMENTS:

Development and prototyping software:

- Kanzi RightwarE
- Altia Design
- Connections mathworks
- Canoe v6.1
- Software Bus system examining pconvert
- MathWorks – Matlab
- Simulink

- Stateflow
- Qt Enterprise - Desktop and Mobile Multi OS
- Adobe Creative Cloud software
- Labview base development system
- Canalyser pro v.8.1
- Static driving simulator for user tests

In addition, the laboratory has got personal computers equipped with screen, keyboard, mouse, and their operating systems and licenses.

ETHICS CODE

All data and technical and/or commercial information relating to or coming from the parties in which one of the parties and on its behalf its legal representatives, employees and / or contractors, will become aware during the execution of this contract, shall be considered confidential with the exclusion of facts and information that:

- are already known to the recipient, with a certain date, before the obligation of confidentiality;
- are already in the public domain;
- have been developed by the recipient independently.

Therefore, neither the parties, nor their legal representatives, employees and/or collaborators, by virtue of this contract, may disclose to third parties

and/or make public such data and/or information, on which the parties, their legal representatives, their Collaborators are bound by secrecy and confidentiality for the entire duration of the contract and even after its expiration.

To this end, the Parties undertake all necessary steps to protect the confidentiality of such information.

In the event of failure to comply with the obligations referred to in the preceding paragraph, without prejudice to the right to compensation for damages, the parties shall have the right to terminate this contract for the act and fault of the other party.

INTELLECTUAL PROPERTY MANAGEMENT

The ownership of any result, inventive, patentable or not, as well as the exclusivity of the right to use, in any form and manner, the results developed in the Project, including all know-how and the relative rights of industrial exploitation deriving directly from the industrial research activity, will be exclusively of the client.

Role: Since 2012 RE:Lab srl has been accredited as the Industrial Research and Technology Transfer Laboratory of the rete Alta Tecnologia (High Technology Network) of the Emilia Romagna Region.