

COST Action IC1201

2012 | 2016

BETTY

Behavioural Types for Reliable Large-Scale Software Systems

In the past, computing consisted of isolated computers processing data. Programming languages quickly adopted data types in order to codify the structure of data and support the development of reliable data-processing software. Today, computing depends on communication between co-operating components, and verification of dynamic properties is essential. Behavioural types include: types for structured communication, such as session types; contracts expressed as types; and types for properties such as termination, liveness and deadlock-freedom. They have the potential to support the development of reliable communication-oriented software, but have not yet been systematically put into practice.

Objectives

- To develop the domain of certified software for global services, by incorporating behavioural types into programming languages and software engineering tools for automatically checking behavioural properties of communicating software systems.
- To co-ordinate European research activity on the theory and application of behavioural types, and the deployment of programming languages and tools based on them.
- To build an effective working community of European researchers in this area.
- To encourage the industrial adoption of advanced programming languages and tools.

Working Groups

- **WG 1: Foundations**
(Chairs: Hans Hüttel & Vasco Vasconcelos; Vice-Chair: Ivan Lanese)
developing the theory of behavioural types in order to support their applications
- **WG 2: Security**
(Chair: Ilaria Castellani; Vice-Chair: Hugo Vieira)
integrating behavioural types with techniques for security analysis
- **WG 3: Languages**
(Chair: Luca Padovani; Vice-Chairs: Giuseppe Castagna & Nobuko Yoshida)
implementing behavioural types in practical programming languages
- **WG 4: Tools and Applications**
(Chair: Thomas Hildebrandt; Vice-Chair: Fabrizio Montesi)
developing software engineering tools and applying them to realistic case studies

Recent and Forthcoming Activities

- 3rd International Workshop on Behavioural Types (BEAT) at CONCUR, September 2014.
- Working Group Meetings: April 2014 (at ETAPS), September 2014 (at CONCUR).
- 1st International Summer School on Behavioural Types: Lovran, Croatia, July 2014.
- Funding for Short-Term Scientific Missions between participating countries.

Get Involved

- Contact the Action Chair, Simon Gay, with details of your interests.

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Information and
Communication
Technologies
(ICT)



Participating countries: 22
BA, CY, DE, DK, EE, ES, FR, GR, HR, IE, IT, LT, MK, MT, NL, NO, PL, PT, RO, RS, SE, UK

Global collaboration:
AR

Contact details

Chair of the Action

Simon Gay (Simon.Gay@glasgow.ac.uk)

Vice-Chair

António Ravara (aravara@fct.unl.pt)

Domain Committee Rapporteur

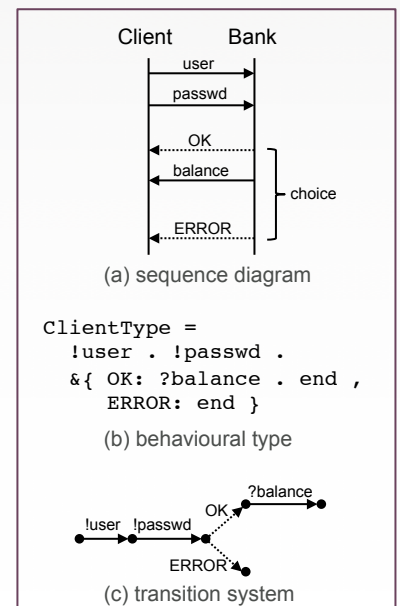
Jan Mikkelsen (hmi@es.aau.dk)

Science Officer (COST Office)

Ralph Stübner (Ralph.Stuebner@cost.eu)

Website

www.behavioural-types.eu



Describing structured communication.



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