

Research Report

winter 2007

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Project I (Tokutei)

- ❑ **Sponsor** <http://i-explosion.ex.nii.ac.jp/i-explosion/>
 - Japan Ministry of Science,... (MEXT)
 - Specially Promoted Area: “IT Explosion”
- ❑ **Goal**
 - Design Failure Detection Service
- ❑ **Collaborators**
 - TDU (Naohiro Hayashibara), AT&T (Rick & Matti)
 - JAIST: Yan Yang, Naixue Xiong, Matthias Wiesmann

Project I (Tokutei)

□ **Basis**

- Accrual Failure Detectors
 - Gradual information
 - Mapping w/QoS

□ **Ongoing work**

- Accrual Implementations
- SNMP
- FD overlay; indirect monitoring

Project II (Robots)

□ **Sponsor**

- Japan Ministry of Science,... (MEXT)
- Grant for Young Scientist type A

□ **Goal**

- Dependable Coordination of Mobile Robots
- Bridge Theory and Practice

□ **Collaborators**

- Kyushu U. (M. Yamashita), Paris VI (M. Gradinariu)
- JAIST: N.Y.Chong, S.Souissi, R.Yared, D.Higashihara

Project II (Robots)

- **Some ongoing work (theory)**
 - Gathering w/unreliable compasses
 - Eventually stabilizing: Semi-synch.
 - Fixed bounded $< 45^\circ$ (asynch.)
 - Fixed bounded $< 180^\circ$ (semi-synch.)
 - Byzantine Gathering
 - Incl., probabilistic approaches
 - Token passing

Project II (Robots)

□ **Some ongoing work (practice)**

- Anti-collision w/asynchronous comm.
 - blind robots; use network / global coordinates
 - impact GPS errors
- Application
 - Cooperative construction
 - Heterogeneous groups
 - Garcia, PPRK, Mindstorms NXT

That's all, folks!