CERTIFIABLE JAVA FOR EMBEDDED SYSTEMS

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PROJECT TARGETS

- SCJ Implementations (L0 and L1)
- On Java processor JOP and on top of RTSJ
- RT library
- Use cases - SCJ example applications
- Analysis tools: resource usage (memory and time)
- SCJ compliance checker
- Verification of safety properties

PARTNERS

- Technical University of Denmark
- Aalborg University
- GomSpace

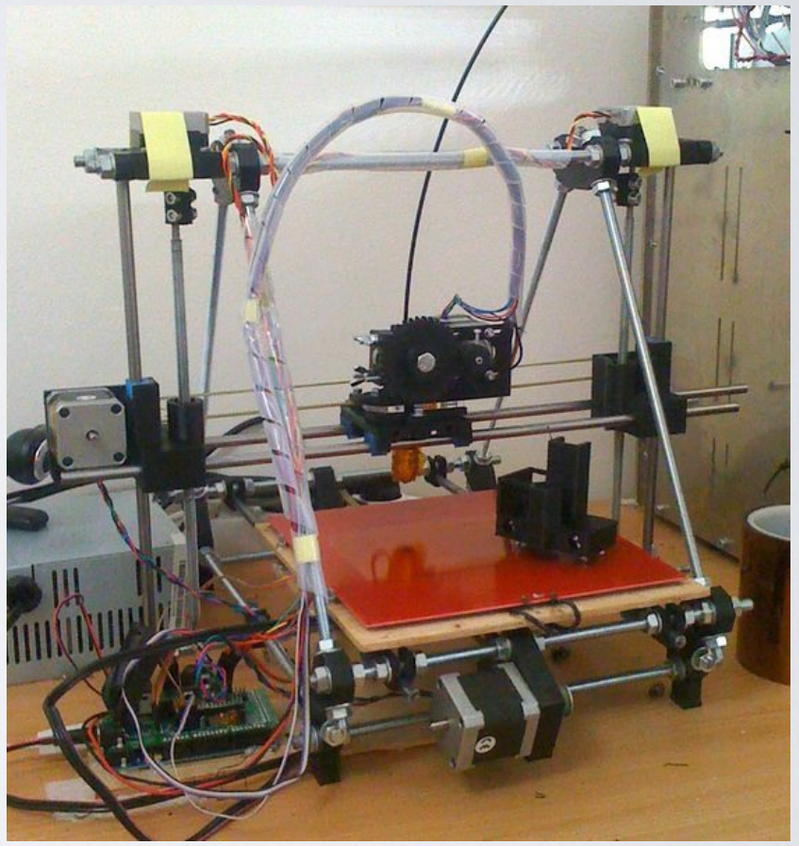
FUNDING

- Danish technology and production research fund
- 2 PhD plus some extra person resources
- Duration 3 years
- Easy reporting ;-)

PEOPLE

- Anders Ravn, Kim Larsen
- Rene Hansen, Hans Søndergard
- Andreas Daalsgard
- Martin Schoeberl, Paul Pop
- Juan Rios
- Karl Kaas Laursen

USE CASES



- Intelligent watchdog for nano satellite
- Text book example mine pump ;-)
- DIY 3d printer
- Maybe some LEGO robot

STATUS

- Started March 2011
- SCJ implementation on RTSJ about done
- Hardware support for scope checks done
- Analysis tool for scope checks on the way (WALA)

SUMMARY

- Provide an open-source implementation of SCJ
- Assess usability of SCJ with use cases
- Apply program analysis techniques to verify safety properties of SCJ applications
- Provide WCET analysable libraries for real-time Java