CSC Information meeting
February 10th, 2016
KTH Software Center

(Name still to be determined)

Mads Dam CSC/TCS
Informal working group at KTH started 2013

**Mission**: Strengthen research in advanced software technology and engineering at KTH through:

- Strategic recruitments
- Industry research collaborations
- Improved collaboration and coordination between schools, in particular Kista and Campus
- Creating center with advanced software technology focus

Process for formally creating the center has now started
Objectives

Industry-Academia collaborative center with
• Significant industrial contribution – large industries
• 10 year time horizon
• No initial VINNOVA participation
• Research, Education, Contract Education
• (Currently) Joint venture between CSC/ICT-schools

Funding goals for the period 2017-2019
• CSC/ICT schools committed 20M (Rektor contract)
• To be matched by industry 20M
• External project funding volume 20M

Opening for new “WASP” – professor to be connected to the center, possibly as a center director/scientific leader
Focus

Theory, methods, technology for modern industry-scale software production

Methods for analysis, implementation, modeling, evaluation and maintenance of future large-scale, intelligent software systems

Focus on high quality and trustworthiness, e.g. performance, security, safety, reliability, fault tolerance

This list is not exclusive and to be developed
Partners

Core team at ICT:
• Schulte, Haridi, Dowling, Broman, Sander, Kostic
• Constraint solving, distributed systems, embedded systems & software, SDN

Core team at CSC:
• Dam, Meinke, Gurov, Haller, Guanciale, Artho, Nordström
• Formal methods, embedded systems security, testing, programming languages, SAT solving, V&V

Other at ICT/CSC: E.g. robotics, HCI, hardware

SICS, FOI, EES, ITM?

Industry partners
• Ericsson, Saab
• Others, to be discussed in coming months
Tentative Time Plan

February:
  – Initial preparation work at school level

March-April:
  – Basic center set-up, IPR, membership, funding etc.
  – Framework agreement with industry partners

May-June:
  – Detailed planning

Autumn term:
  – Activity ramp-up

October:
  – Signatures and budgets fixed, org unit created

Jan 2017:
  – Launch event
Status

Working group established
• Dam, Schulte, Sander, Meinke

Interim board:
• Catrin Granbom (Ericsson), Stefan Andersson (Saab)
• Arne Johansson (KTH)
• Jens Zander (ICT), Jan Gulliksen (CSC)

Basic premises and time tables being agreed at school level

Tasks for 2016:
• Agree on center plan, governance, participation, funding, structure, partnership program, activities, budget, staff
New employees

Welcome!!!
New faculty positions:

**TCS**
Cyrille Artho, Associate professor in Computer Science

**TMH**
Jens Edlund, Assistant professor in Speech Communication with specialization in phonetically-based interaction analysis

**CVAP**
Jana Tumova, Assistant professor in Software Technology
CST
Susanne Kunkel, Postdoctor

PDC
Ragnar Sundblad, Systems manager
Timjan Neander, Economical officer
CSC Finances 2015

Mattias Wiggberg
CSC 2015 Sources of Income (385 Msek)

- Government grants for undergraduate education KTH (101 Msek)
- Government grants for research (109 Msek)
- External funding (158 Msek)
- Other (17 Msek)
## CSC 2015 Msek (preliminary result)

<table>
<thead>
<tr>
<th></th>
<th>Education</th>
<th>Research</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Turnover (omsättning) 2015</td>
<td>116</td>
<td>269</td>
<td>385</td>
</tr>
<tr>
<td>Turnover (omsättning) 2014</td>
<td>108</td>
<td>258</td>
<td>366</td>
</tr>
<tr>
<td>Net profit / loss (resultat) 2015</td>
<td>3</td>
<td>-6</td>
<td>-3</td>
</tr>
<tr>
<td>Budget 2015</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Net profit / loss (resultat) 2014</td>
<td>5</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Agency Capital (myndighetskapp)2015-12-31</td>
<td>0</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>Budget 2016</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
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</table>

5 less than budget. Why?
Årets resultat och myndighetskaptital forskning per avdelning 2015 (MSEK)

<table>
<thead>
<tr>
<th>Dep./centra</th>
<th>Result 2015</th>
<th>Agency Capital (Myndighetskapt.) 2014-12-31</th>
<th>Agency Capital (Myndighetskapt.) 2015-12-31</th>
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<tbody>
<tr>
<td>CSC Total</td>
<td>-5</td>
<td>81</td>
<td>76</td>
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<tr>
<td>CSC Central</td>
<td>2</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>CVAP/CAS</td>
<td>-3</td>
<td>26</td>
<td>23</td>
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<tr>
<td>TCS</td>
<td>3</td>
<td>5</td>
<td>8</td>
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<tr>
<td>CST</td>
<td>-6</td>
<td>15</td>
<td>9</td>
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<tr>
<td>MID</td>
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<td>11</td>
<td>10</td>
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<tr>
<td>TMH</td>
<td>3</td>
<td>-1</td>
<td>2</td>
</tr>
<tr>
<td>PDC-HPC</td>
<td>-3</td>
<td>0</td>
<td>-3</td>
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<tr>
<td>CESC</td>
<td>0</td>
<td>-0,5</td>
<td>-0,5</td>
</tr>
<tr>
<td>COT</td>
<td>0</td>
<td>0,5</td>
<td>0,5</td>
</tr>
</tbody>
</table>
New honorary members in Datasektionen

- Alicja Lissenko
- Helen Lindkvist-Katz

“har blivit utsedd till hedersmedlem i Datasektionen för allt ditt fantastiska stöd du gett oss och för allt ditt omfattande arbete med oss studenter på Datasektionen!”
Nominate Student theses before 17 February

Lilla Polhemspriset
For MSc in Engineering (civ.ing.) theses
Price: 50,000 kr
Two nominations from KTH
Must have been completed in 2015
High scientific quality
Excellent presentation

Wimanska priset
For Högskoleingenjör or Tekn. kandidat
Price: 50,000 kr
One nomination from KTH
Must have been completed in 2015
Must be less than 22,5hp
Must be final work (not part of a MSc)

Send nominations to: engwall@kth.se
Service center

Sara Johansson
Time to move

Where will you find the departments?

**LV 3**
Floor 4 – CST and Dean’s Office
Floor 5 – TCS and CESC
Floor 6 – MID

**TR 14**
Floor 4 and 5 – PDC and a some rooms for CVAP
Floor 6 and 7 – CVAP

**LV 24**
Floor 4 and 5 - TMH
Desicion and rebuild

• Our Dean has made a desicion to terminate some premises in the school:
  - LV 3 floor 6 six rooms (f d Ladokkorridoren)
  - LV 24 floor 4 about 20 rooms (CB)

• Four different rebuilding proposal is ongoing:
  - LV 3 floor 4
  - LV 3 floor 5 (Two computer rooms at f d Systemgruppern)
  - TR 14 floor 5
What’s next?

• Time to plan the details
• Get team member’s from the departments
• Set time and date for moving

More information will come soon.

If you have questions you can contact Sara Johansson at: service@csc.kth.se
New HR Policy at KTH and CSC working with a sustainable organisation

New policy and specific guidelines for:
• Medarbetarskap - Employeeship
• Ledarskap – Leadership
• Lika villkor – Equal terms
• Arbetsmiljö – Work environment
• Kompetensförsörjning – Competence planning
• Lönebildning – Salary structure

More instructions will be developed within each area.

At CSC, we will introduce this policy to all our departments when we work on our own ”sustainable organisation”.

CSC management team has started up a work that will continue during this spring. More information will come!
Avonova **Sergel** health centre is in the 5th skyscraper close to Sergels Torg.

Tel +46 8-12012500.

Opening hours:
Monday – Thursday 8 am – 5 pm
Friday 8 am – 4.30 pm
Closed for lunch 12 noon – 1 pm
New company health – Avonova

Equivalent range of services as old company health Feelgood:

• All employees can visit the occupational health centre up to three times per year without the occupational health service notifying their manager or anyone else at KTH.

• Visits are made on a specialist basis and you need to book an appointment. **No-shows or late cancellations (less than 24 hours before the appointment) are charged as per the agreement.**

• The health, lifestyle and work surveys at each school (former HALU, at Avonova called BAS) and the health check-ups will continue as before.
Close relative information

Please, update the self reporting system with where we can turn if something happens to you!
KTH's general travel foundations

• Primarily travel grants for lecturers, researchers and PhD students at KTH.

• Application period: 15th of February to 15th of March

This will also be announced and linked in Numera and at CSC intranet.

Note that all current scholarship announcements are linked at the CSC intranet at all times.
Employee survey

All employees will be asked to participate in 2016 years Employee survey (MUS).

When:  Week 10-12

What has happened since last survey, 2013?
From that material we focused on some areas of significance and since then we have:

- Created a Leaderweb so that managers have easy access to information about development dialogue, work environment etc.
- Seminaries in diversity and equality for leaders and supervisors
- Routines for discrimination and harassment
- Crisis button on all CSC webpages
- Implemented a health and lifestyle survey together with the company health
- And more…

We have also started working with:
  - A project called- sustainable organization
  - A project together with KTH central concerning crisis and routines for work environment

More information to come via Numera and your managers.
Diversity and equality

Do not forget KTH equality week: 22-26 February

Local diversity projects:
4 sent in:
• “Normkritisk grund inom utbildning”
• “Mätmetod för mångfaldspåverkan”
• “Film, undervisning på CSC”
• “Visualizing career paths for everyone”
Environment

New waste separation in all kitchen areas

Waste will be separated into:

Glass - coloured and transparent
Metal - recyclable and other
Plastic - hard and soft plastic
Compostable waste

These are the separations that SITA, the company that manages the garbage, can take care of.
Giants Campaign

Recruiting young women to IT/Computer Science and Electro

Johanna Järnfeldt and Maria Malmqvist
THE FUTURE NEEDS GIANTS

12 MARS 2016

UF/KIR + STH, ICT EES, CSC

18 FEB

kth.se/giants
Centre for Art, Technology & Design

Leif Dahlberg
Centre for Art, Technology & Design

Cooperation between ABE-, CSC- and ITM-schools, and with Arts colleges in Stockholm Research, PhD programme (KTD), advanced and college level education
Creativity, radical rethinking of the relationship individual-society-environment
Centre for Art, Technology & Design

Uppdrag till Leif Dahlberg angående utredning av centrumbildning Konst, Teknik och Design

Beslut


Bakgrund

KTH driver sedan många år tillbaka forskningsprojekt och verksamheter som har en ledande position i utvecklingen av konstnärlig forskning i Sverige. Inom ramen för centrumbildningar och specifika forskningsprojekt har KTH under längre tid etablerat starka samarbeten med olika konstnärliga högskolor och med designutbildningar över hela landet. Sedan 2014 driver KTH i samarbete med Konstfack ett doktorsprogram, Konst, Teknik, Design. Ett behov av vidare samordning rörande utvecklingen av forskning inom design och med konstnärliga metoder har identifierats. En centrumbildning i området tydliggör KTH:s starka samlade kompetens, bidrar till specifik profilering och stärker forskningsområdet i stort, på KTH, liksom på samverkande högskolor.

Centre for Art, Technology & Design

Goals for the assignment from Rektor
Develop a proposal for organising the collaboration of education and research within the area Art, Technology and Design, at KTH (ABE, CSC & ITM) and with Arts schools in Stockholm, which should lead to a centre formation.

- Goal for the activity
- Plan for activity
- Organisation
- Economic plan
- Intelligence (Omvärldsanalys)
- Available resources
- Expected contributions from external sources/partners
- Physical resources (rooms, environments, labs)

To be finished end of March 2017
Interactive Grounded Language Understanding (IGLU) 3 min

Giampiero Salvi
IGLU: Interactive Grounded Language Understanding

• CALL: CHIST-ERA Human Language Understanding
• Total granted for the project 1.14 M€ (2.8 MSEK to KTH)
• Duration: 3 years
IGLU: Goals

• Learning by demonstration/interaction
• Grounding language
• Scenario: learning to cook
IGLU: Other Partners

- Jean Rouat, Univ. de Sherbrooke, Canada (Coordinator)
- Aaron Courville, Univ. de Montréal, Canada (Deep Learning, Yoshua Bengio's lab)
- Manuel Lopez, INRIA, France (Robotics, Reinforcement Learning)
- Stéphane Dupont, Univ. of Mons, Belgium (Speech Technology)
- Luis Montesano, Univ. de Zaragoza, Spain (Computer Vision and Machine Learning)
- Olivier Pietquin, Univ. Lille 1, France (Reinforcement Learning)
BabyRobot – an EU projekt

Joakim Gustafsson
BabyRobot

Audio-Visual Processing & Behavior Tracking Module
- Localization & Tracking
- Gesture Recognition
- Speech Recognition
- Speech Understanding
- Action Recognition
- Socio-Affective Tracking
- Intent Recognition

Core Robotic Functionality Module
- Gestural Kinematics
- Environment Interaction
- Planning
- Robot Learning
- Behavioral Control

Multiparty Multimodal Communication Module
- Joint Attention
- Common Ground
- Joint Intentionality
- Multiparty, Multimodal Dialogue Manager
- NL & Gesture Generation

Pedagogical Module
- Multiparty collaboration
- Communication skill tutor
- Collaboration skill tutor
- Data analytics
- ASD behavioral modeling
- Pedagogical evaluation
## Participants

<table>
<thead>
<tr>
<th>Participant No</th>
<th>Participant organisation name</th>
<th>Participant Short Name</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (coord.)</td>
<td>Institute of Communication and Computer Systems</td>
<td>ICCS</td>
<td>Greece</td>
</tr>
<tr>
<td>2</td>
<td>Athena Research and Innovation Center in Information Communication and Knowledge Technologies</td>
<td>Athena RC</td>
<td>Greece</td>
</tr>
<tr>
<td>3</td>
<td>The University of Hertfordshire Higher Education Corporation</td>
<td>UH</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>4</td>
<td>Universitaet Bielefeld</td>
<td>UNIBI</td>
<td>Germany</td>
</tr>
<tr>
<td>5</td>
<td>Kunlgliga Tekniska Hoegskolan</td>
<td>KTH</td>
<td>Sweden</td>
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<tr>
<td>6</td>
<td>Blue Ocean Robotics</td>
<td>BlueOcean</td>
<td>Denmark</td>
</tr>
<tr>
<td>7</td>
<td>Universite des Sciences et Technologies de Lille</td>
<td>USTL</td>
<td>France</td>
</tr>
<tr>
<td>8</td>
<td>Furhat Robotics</td>
<td>FurHat</td>
<td>Sweden</td>
</tr>
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</table>
Objectives

Create robots that analyze and track human behavior over time in the context of their surroundings (situational) using audio-visual monitoring in order to establish common ground and intention-reading capabilities.

Define, implement and evaluate child-robot interaction scenarios for socio-affective, communication and collaboration skill development in TD and ASD children.

Push beyond the state-of-the-art in core robotic technologies to support natural human-robot interaction and collaboration for consumer, edutainment and healthcare applications.
Technical Contributions

1. Joint **attention modeling** in human-robot interaction
2. Conceptual networks used for creating common ground and as semantic representations
3. Robust multimodal situated algorithms for **behavioural analysis**
4. Intention reading and **action recognition** incorporating multimodal cues
5. Adaptation and **reinforcement learning** both for core robotics, communication and collaboration functionality
6. Robot learning and negotiating **communicative and collaborative skills**
7. Multiparty, multimodal dialogue communication that make use of the joint attention, common ground, shared intentionality and entrainment modules
8. Gesture recognition and modeling algorithms that integrate dynamic statistical models
SAVE THE DATE

CSC summer party

Wednesday the 22nd of June 2016, Nalen

Look out for more information in Numera and intra.csc.kth.se

Welcome!