

Building the Arab World's first Interactive Robotics and Media Laboratory: Challenges and Opportunities

By Dr. Nikolaos Mavridis

It was during the Fall of 2005, two years before I graduated with a PhD from the Massachusetts Institute of Technology's Media Lab that I first visited the United Arab Emirates. This place was a fast-growing, multicultural state at the crossroads of the world, where ancient traditions mix with the ultra-modern, and where the desert is turning into dream cities. Regarding academia, at least at the level of new institutes and impressive campuses, there was quite a burst of activity taking place.

In 2007, given an attractive faculty position offer, in terms of granting the lab infrastructure requested, I decided to join the United Arab Emirates University, the oldest and largest university of the country, previously having been ranked as number two in research in the Arab world. Thus, the Interactive Robots and Media Lab (IRML) was founded, and its two major projects so far are:

First, "Ibn Sina": the world's first Arabic-speaking conversational android robot is part of an interactive theatre installation enabling multiple forms of tele-participation: robotic telepresence through motion capture, interaction with virtual characters controlled by remote humans in online virtual worlds, as well as some first experiments in thought-controlled teleoperation through brain-computer interfacing.

Second, "FaceBots", which was also selected by Microsoft ER as one of 8 projects out of 74 worldwide that had applied for its Human-Robot-Interaction CFP. Facebots are



Pictured: "Ibn Sina" Arabic-speaking android and the "FaceBots" Facebook-connected social robots

mobile robots with face recognition and natural language dialogue, which utilizes as well as publishes information on the "FaceBook" website, in order to make interesting dialogues with humans by referring to shared memories and shared friends, in order to create more meaningful long-term human-robot relationships. Both projects have received worldwide media attention and were featured on BBC and AFP among others. In addition, many other smaller-scale projects are taking place.

The lab has had a very warm reception from our students, many of which carry out senior projects in the lab, as well as participate in our somewhat unconventional annual international summer school, which is mainly research-oriented. Roughly half of our students come from various parts of the world, and often from prestigious universities. Teams of five students carry out mini-projects which reach fruition in an exciting and intense four weeks, and are often extended with remote collaboration adding to what is an amazing experience for everyone involved, and a major thrust to the lab.

However, apart from the accomplishments, and the fun and benefits for everyone involved, the road has not been an easy one, and there have been numerous

challenges which require constant efforts in order to enable operation and growth. Firstly, PhD programs are just starting in the gulf region and thus, so far continuity of knowledge and lab culture require significant efforts, as most members turnover annually. Secondly, the research funding agencies in the UAE suffer from serious organizational and operational shortcomings. The funding size is very small in terms of any international comparison, agencies do not provide reviews, and usually have long delays in their answers, if they ever arrive. Thirdly, bureaucracy and obsolete operational processes of universities create huge obstacles. I often find myself spending at least two working days per week travelling to offices where phones do not answer, in order to follow up for the often five or so signatures required, even for minute tasks. It is not only the length and inflexibility of the processes but also the non-accountability of the links, the lack of written policies, and a twenty to one faculty to secretary ratio. No beginning is easy, though. The big question for us is how much room for improvement really exists. We are trying our best to find ways around.

Apart from the challenges, though, there are both the existing accomplishments as well as the continuous excitement of seeing the lab

grow and our students prosper. There exist huge opportunities for further development of research in the region – not only for the sake of our field per se, but towards the benefit of the people, and prosperity and peace worldwide. If you are interested in helping out, or have a similar vision of developing research in the region, don't hesitate to contact us. We hope that the IRML lab, and other such parallel efforts, will help towards achieving these worthy goals!

News and Videos: <http://irml.uaeu.ac.ae> and youtube channel irmluaeu

Dr. Nikolaos Mavridis is an Assistant Professor of Intelligent Systems, UAEU Founder and director, Interactive Robots and Media Lab United Arab Emirates.



Pictured Above: Second Annual Month-Long Research-Centered International Summer School, July 2009



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