**Proposed Intelligent Robotics Projects for Fall 2011**

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| **Project**  **number** | **Names of student(s)** | **Title of Project** | **Helper/**  **Consultant in addition to Marek Perkowski** | **Papers and reports to read** | **Software to use** |
| **1** | **Denis Venger (G)**  ***Team with experienced graduate student*** | **Networked Tower of Hanoi Robot Arm**  ***This is a simple didactic project that will serve to explain robotics and AI to high school students and teach them how to use remotely. Very high didactic documentation is expected*** | **Vlab team** |  |  |
| **2** | 1. **Jim Larson (G) – Team Leader and software architecture** 2. **Robert Fiszer (G) – Natural Language** 3. **Jacob Pomerleau (U) – Hardware expert** 4. **Hamed Mirlohi (U) – software and integration, stereo vision integration**   ***Team with two graduate students*** | **Networked Guide Robot for MCECS at PSU**  ***This is the long-heralded robot to guide visitors in FAB and Engineering Buildings. Speech recognition, typed commands, display feedback, Kinect and stereovision, path planning. Integration*** | **Vlab team**  **Sri Ram Kumar – Kinect and architecture** | **Sri Ram Team Documentation from last year** | **Software from several previous PEOPLE-BOT projects, especially from Sri Ram** |
| **3** | 1. **Omar Mohsin (G) – team leader and software** 2. **Ali Alnasser (G) – hardware**   ***Team with two graduate students*** | **Networked Newton Robot Puppet for Robot Theatre**  ***This project uses well-developed and sophisticated mobile robot and will be mostly software and mechanical improvements*** | **Vlab team**  **Alan Cheng** | **Documentation from Alan Cheng** | **Software from Bohr, Einstein, Cat, or any other mobile robot from the past** |
| **4** | 1. **Sahar Daraeizadeh (G) – team leader, theory and integration** 2. **Tonderai Nemarundwe (U) – programming and interfacing**   ***Team with experienced graduate student*** | **Networked Schroedinger Cat Robot for Robot Theatre**  ***This project uses well-developed and sophisticated mobile robot and will be mostly software and mechanical improvements*** | **Vlab team Chris Forrstrom** | **Reports of previous teams** | **Software from Schroedinger Cat Robot, Bohr, Einstein, Cat, or any other mobile robot from the past** |
| **5** | 1. **Jules Alfani (U) – programming** 2. **Michael Lowe (U) – team leader and robot design** | **Networked Niels Bohr Robot for Robot Theatre**  ***This project uses well-developed and sophisticated mobile robot and will be mostly software and mechanical improvements*** | * + **Vlab team** [John Chhokar](http://www.facebook.com/profile.php?id=500530215&ref=pb) | **Reports of previous teams** | **Software from Bohr, Einstein, Cat, or any other mobile robot from the past** |
| **6** | 1. **Nilesh Bahic (G) – program leader** 2. **Philip Kangas (U) – programming and interfacing**   ***Team with experienced graduate student*** | **Networked Dancing Hexapod Robot for Robot Theatre**  ***This project uses well-developed and sophisticated mobile robot and will be mostly software and mechanical improvements*** | **Vlab team**  **Josh**  [John Chhokar](http://www.facebook.com/profile.php?id=500530215&ref=pb) | **Reports of previous teams, especially from Josh** | **Software from Hexapods, Bohr, Einstein, Cat, or any other mobile robot from the past** |
| **7** | **Jabeer Ahmed (G)**  ***Student from OHSU that has medical background and environment*** | **Computer Vision and Machine Learning System for Melanoma Cancer Detection**  ***Advanced theoretical project that links Computer Vision for medical data combined with various Machine Learning methods.*** | **Arushi Raghuvanshi** |  |  |
| **8** | 1. **Vamsi Parasa (PhD)** 2. **Mehana Bisquera-Chang (G)**   ***The team that asked for theoretical advanced and programming project.*** | **Hierarchical Neural Network Architecture for robots based on new concept.**  ***Theoretical software project in Matlab or C++ or LISP.***  ***This is the most advanced project from the point of view of theory. It will not require building any physical robot at this time. Everything will be simulated. Collaboration with Ohio University*** | **Professor Starzyk, may be Professor Greenwood** | **Papers from Ohio University** | **Software from Ohio University** |
| **9** | 1. **Karla Seliner (U) – team leader, robot hardware** 2. **Derrick Streng (U) – programming** 3. **Ibrahim Almulhin (U) – hardware and programming** 4. **Ayal Lutwak (U) – hardware and integration**   ***The team of undergraduate with a lot of freedom and expected creativity of creating a new robot from scratch*** | **Marie Curie or another robot head robot for Robot Theatre. May be networked, but does not have to be networked.**  ***This is the most hardware/robot building oriented of all projects. This is a basically new robot, all kinematics and interfacing problems. Relatively simpler software.*** | **Chris Clark, students from the last year.** | **Internet, previous reports** | **Software from Bohr, Einstein, Cat, or any other mobile robot from the past** |
| **10** | 1. **Brandon Collier (U) – team leader and hardware** 2. **Dhari AlSaqabi (U) – programming and hardware** | **Theatre of humanoid robots with two KHR-1 and light controls**  ***Theoretical aspect is to develop improved motion generator based on extended probabilistic regular expressions*** | **Aditya Bhutada** | **MS Thesis of Aditya** | **Software of Aditya** |