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Description of item under review for fair use: Figure 1.1 Baxter and PR2. Sources: Deyle, T. (2012, September 17). Baxter Robot from Rethink Robotics Finally Unveiled! Retrieved from [www.hizook.com/](http://www.hizook.com/): [http://www.hizook.com/files/users/3/Baxter\\_Robot\\_from\\_RethinkRobotics\\_8.jpg](http://www.hizook.com/files/users/3/Baxter_Robot_from_RethinkRobotics_8.jpg) Garage, W. (2012). Overview. Retrieved from [www.willowgarage.com](http://www.willowgarage.com): <http://www.willowgarage.com/pages/pr2/overview> Figure 1.3 Talon robot and The Protector. Sources: Annear, S. (2013, April 24). Waltham-Based Robotics Company Lends 'Arm' During Bomb Searches. Retrieved from [www.bostonmagazine.com/](http://www.bostonmagazine.com/): <http://www.bostonmagazine.com/news/blog/2013/04/24/qinetiq-waltham-robots-talon-marathon/> Magnuson, S. (2012, January). Mini-Flail Robots Readied for Afghanistan Bomb Clearing Operations . Retrieved from [www.nationaldefensemagazine.org](http://www.nationaldefensemagazine.org): <http://www.nationaldefensemagazine.org/archive/2012/January/Pages/Mini-FlailRobotsReadiedforAfghanistanBombClearingOperations.aspx> Figure 1.5 DOF shoulder and upper arm. Source: ArmyMedical. (n.d.). Range-of-motion exercises or the shoulder. Retrieved from [tpub.com](http://armymedical.tpub.com): <http://armymedical.tpub.com/MD0556/MD05560061.htm> Figure 1.6 Upper arm muscles. Source: BioDigital. (n.d.). A Better Way to Understand Health and the Human Body. Retrieved from [BioDigital Human: Anatomy and Health Conditions in Interactive 3D](http://www.biodigitalhuman.com): <https://www.biodigitalhuman.com> Figure 1.7 Anatomy of human forearm. Source: BioDigital. (n.d.). A Better Way to Understand Health and the Human Body. Retrieved from [BioDigital Human: Anatomy and Health Conditions in Interactive 3D](http://www.biodigitalhuman.com): <https://www.biodigitalhuman.com> Figure 2.1 The 3 fingered Meka intrinsic hand. Source: Meka. (2009, 10). H2 Compliant Hand. Retrieved from [mekabot.com](http://mekabot.com): [http://mekabot.com/product\\_sheets/meka\\_H2\\_hand\\_product\\_sheet\\_10\\_2009.pdf](http://mekabot.com/product_sheets/meka_H2_hand_product_sheet_10_2009.pdf) Figure 2.2 Prosthetic hand designed by Kinea. Source: Kinea. (2009). portfolio: DARPA Revolutionizing Prosthetics 2009. Retrieved from [Kineadesign.com](http://www.kineadesign.com): <http://www.kineadesign.com/portfolio/prosthetics/> Figure 2.3 Sandia National Labs intrinsic hand. Source: Hobby, S. (2012, August 15). Lifelike, cost-effective robotic Sandia Hand can disable IEDs. Retrieved from [Sandia Labs News Releases](https://share.sandia.gov/news/resources/news_releases/robotic_hand/): [https://share.sandia.gov/news/resources/news\\_releases/robotic\\_hand/](https://share.sandia.gov/news/resources/news_releases/robotic_hand/) Figure 2.4 Cutkosky's 16 grasps strategies. Source: M.R. Cutkosky, R. H. (1990). Human grasp choice and robotic grasp analysis. In T. I. S.T. Venkatamaran, Dextrous robot hands (pp. 5-31). New York: Springer. Figure 2.5 Robonaut 2 hand. Source: Guizzo, E. (2012, May 22). How Robonaut's Compliant Arms Work. Retrieved from [Spectrum.ieee.org](http://spectrum.ieee.org): <http://spectrum.ieee.org/automaton/robotics/humanoids/how-robotaut-arms-work> Figure 2.6 Shadow dexterous 24 DOF hand. Source: Shadow. (2013, 01 01). Shadow Dexterous Hand Technical Specification. Retrieved from [shadowrobot.com](http://www.shadowrobot.com): [http://www.shadowrobot.com/wp-content/uploads/shadow\\_dexterous\\_hand\\_technical\\_specification\\_E1\\_20130101.pdf](http://www.shadowrobot.com/wp-content/uploads/shadow_dexterous_hand_technical_specification_E1_20130101.pdf) Figure 2.7 DLR Hand-Arm system. Source: Markus Grebenstein and Alin Albu-Schaffer. (2011). The DLR Hand Arm System. IEEE International Conference on Robotics and Automation, 3175-3182. Figure 2.8 Humanoid DART hand. Source: Priya, S. (2011). Design and implementation of a dexterous anthropomorphic robotic typing (DART) hand. SMART MATERIALS AND STRUCTURES, 1-12. Figure 2.9 Human hand critical dimensions. Source: NASA, J. (2000). ANTHROPOMETRY AND BIOMECHANICS. Retrieved from [Man-System Integration Standards](http://msis.jsc.nasa.gov/sections/section03.htm) : <http://msis.jsc.nasa.gov/sections/section03.htm> Figure 3.1 HRP-4 Robot. Source: AIST. (2011, January). Development of humanoid robot research and development platform for HRP-4 working. Retrieved from [National](http://national)

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[http://www.aist.go.jp/aist\\_j/press\\_release/pr2010/pr20100915/pr20100915.html](http://www.aist.go.jp/aist_j/press_release/pr2010/pr20100915/pr20100915.html) Figure 3.2 ARMAR III home assistant. Source: T. Asfour, et al. (2006). ARMAR-III: An Integrated Humanoid Platform for. IEEE, 169-175. Figure 4.1 Kinect sensor. Source: Microsoft. (n.d.). Kinect Sensors. Retrieved from Microsoft Developer Network: <http://i.msdn.microsoft.com/dynimg/IC584396.png> Figure 4.2 Sensor flow diagram. Source: Jordan Kuehn and Kevin Horecka. (n.d.). LabVIEW Kinect Interface. Retrieved from LabVIEW Hacker: [http://www.labviewhacker.com/doku.php?id=projects:lv\\_kinect\\_interface:lv\\_kinect\\_interface](http://www.labviewhacker.com/doku.php?id=projects:lv_kinect_interface:lv_kinect_interface) Figure 4.3 Kinect motion tracking. Source: CARMODY, T. (2010, November 3). How Motion Detection Works in Xbox Kinect. Retrieved from Wired: <http://www.wired.com/gadgetlab/2010/11/tonights-release-xbox-kinect-how-does-it-work/> Figure 4.5 Degree of control. Source: Brooks, R. (n.d.). Robots Everywhere! Retrieved from The Computing Research Association: [http://cra.org/ccc/docs/locslides/pdf/S4\\_Brooks.pdf](http://cra.org/ccc/docs/locslides/pdf/S4_Brooks.pdf) Figure 4.7 Example of network shared variable. Source: NI. (2012, March 4). Using the LabVIEW Shared Variable. Retrieved from National Instruments: <http://www.ni.com/white-paper/4679/en> Figure 4.8 Different types of wireless protocols. Source: ANSolutions. (n.d.). Standards & Feature Comparison. Retrieved from Adaptive network solutions: <http://www.an-solutions.de/images/standarts.html>

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