

I, for one,
welcome
our robot
overlords...

(adapted from HG Wells's
Empire of the Ants)

Tech Trends
with Tine
Webinar Series
presents...

AI/Robots/
Drones

From programming to
sentience

Tine Walczyk – April 29th, 2016
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Tech Trends with Tine

Let's talk about...

- AI
- Robots
- And...
- Drones

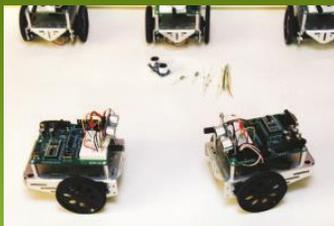


<https://www.technologyreview.com/s/601215/china-is-building-a-robot-army-of-model-workers/>

Artificial Intelligence

- Systems that
 - respond/react to their environment
 - typically involve decision making processes
 - draws conclusions from massive amounts of data
- Eliza – early question/response system
- Turing Test – can a human not distinguish that they are talking with a computer?

Bring in the Robots...



Robots - Types

- Industrial – Pick-n-pack, repetitive motion
- Autonomous vehicles
- Telepresence
- Anthropomorphic
- Military



Robots - Research

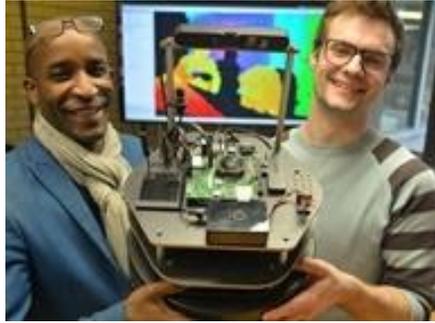
- Motion mechanics (walking/running)
- Vision systems (hand/eye coordination)
- Inverted pendulum (segway)
- Household servitude (response/prediction)
- Archival / Retrieval

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Library Uses

- Library Helper Robot – takes voice searches and shows patron to the book on the shelf
- Near Future
 - Shelving
 - Reserve retrieval from scanning a student's ID

Aberystwyth University

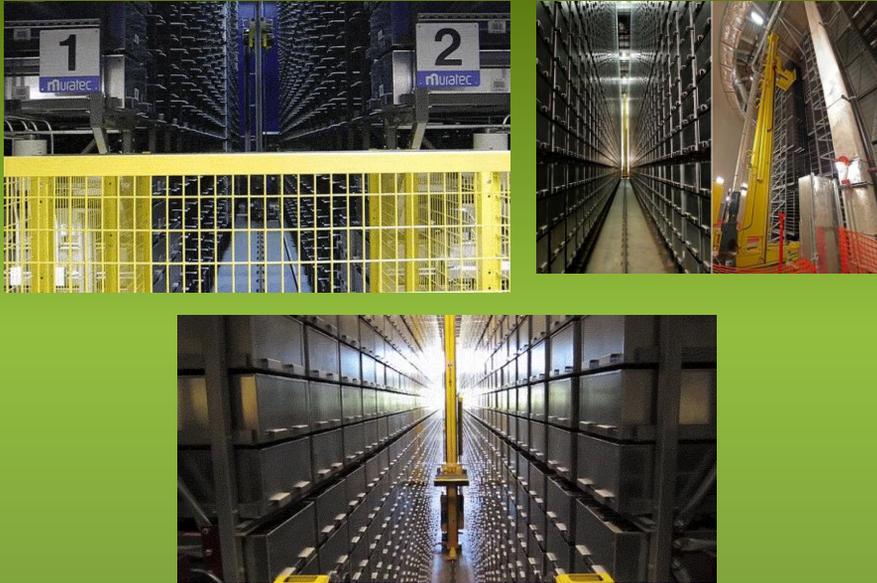


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Library Uses

- Automated Storage and Retrieval Systems – massive storage centers (book/media/data) that use robot technology
 - Space
 - Speed/Convenience
 - Preservation
 - Greater Holding Capacity
 - Cost savings
 - Max flexibility/continued growth

Library Robots



Tech Trends with Time

Who's using an ASRS?

- Chicago State University
- California State University, Long Beach
- Colgate University
- Eastern Michigan University
- Georgia Southern University
- North Carolina State University
- San Francisco State University
- Santa Clara University
- Sonoma State University
- University of British Columbia
- University of California at Northridge
- University of Chicago
- University of Louisville
- University of Nevada, Las Vegas
- University of Nevada, Reno
- University of Utah
- Utah State Archives
- Valparaiso University

And now the drones...



Tech Trends with Tine

Non-military uses of drones

- "Self-repairing cities"
- Security – Upcoming Soccer match in Paris
- Search & Rescue
- Delivery

Tech Trends with Tine

Drones

- Unmanned Aerial Vehicles (UAVs)
- Commercially – Quadcopters, etc
 - You may not even know your child already has a drone!
- Toy/Camera/Racing
- Business
- Military



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What can libraries do?

- Educate
 - Did you know you have to register your drones?
- Programming
 - Many simple robots can be created
 - Have a drone flying day
- Lending
 - University of Southern Florida, Colgate University

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Where to get started?

- Robots
 - Lego MindStorms kits (mindstorms.lego.com)
 - MakeBlock kits (www.makeblock.cc)
- Drones
 - MyFirstDrone.com
 - Simple one <\$50



Tech Trends with Tine

Resources / learn more

- Artificial Intelligence (Journal) - <http://www.sciencedirect.com/science/journal/00043702>
- Intro to AI (Free online course) - <https://www.udacity.com/course/intro-to-artificial-intelligence--cs271>
- Library Robot - <http://ij.libraryjournal.com/2016/03/technology/library-robot-coming-to-welsh-university/>
- Automated Storage and Retrieval Systems - <http://gizmodo.com/the-giant-robots-that-serve-the-worlds-largest-library-1700712936>
- University of Missouri Kansas City RooBot at work - <http://library.umkc.edu/newmnl/about-robot>

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Resources / learn more

- Register my TOY??!??! Yes, Sir! –
<http://americanlibrariesmagazine.org/blogs/the-scoop/libraries-new-faa-drone-rules/>
- The FAA's FAQ on Drones –
<https://www.faa.gov/uas/faq/>
- Library of the Future article on Drones -
<http://www.ala.org/transforminglibraries/future/trends/drones>
- Lessons from a Drone program at a Colorado Public Library -
<http://publiclibrariesonline.org/2016/01/drones-the-library/>

Tech Trends with Tine

Keep up to date

- Hack a Day
- SparkFun
- Ideas for beginning Robotics projects -
<http://robohub.org/tag/robohub-focus-on-robotics-education/>
- LiveScience -
<http://www.livescience.com/topics/robots/>

Tech Trends with Tine

Next week we will look at
innovations in user interfaces!
(voice, gestures,
“mind control”)

Tech Trends with Tine Webinar presented on April 29th 2016.