Resources for Libraries & Lifelong Learning
- We are all about resource sharing.
- Always thinking about how to better share resources.
    - Took away 300,000 physical items.
    - More emphasis on BadgerLink, Wisconsin's Online Library.
    - Still facilitating ILL - more transactions with less staff.

What is a drone?
- Unmanned Aerial Vehicle (UAV)
- The word "drone" comes from the military - a UAV that travels on a predetermined path.
- Quadcopters are the most common and what we think of when we think of non-military drones.
    - 4 propellers. 2 spin clockwise, 2 spin counterclockwise - counteracts Newton's 3rd Law.
    - Contains microcontroller, accelerometer, and gyroscope to control movement.
- Can be used for recreation, photography, or delivery.
- What's the difference between a drone and a remote controlled airplane?
    - At the hobby level, not much.
    - At the professional level, drones can fly long distances to remote locations using either camera controlled flight, or automated flight.
- Become "smartphones with propellers" instead of "airplanes without pilots."
    - Utilizing the "Internet of Things"
    - Able to more smartly navigate and guide.
    - Respond to requests from distance. (ie patrol my house).

Great, let's start loaning library books!
- Amazon Prime Air was announced last year, not happening anytime soon.
    - FAA took six months to approve a testing permit application.
    - Now Amazon is testing in Canada.
- Not so fast, The FAA clarified its position.
    - Daylight.
    - Line of sight control.
    - Under 55 lbs.
    - Only in certain locations (not near airports or high security areas).
    - Pressure is coming from the for-profit sector to revisit drone regulations.
- Finnish Post Office is testing drone delivery for parcel packages.
    - Live pilot.
    - Only looking at "last mile" delivery - bulk delivery doesn't scale.
    - Libraries would also be looking at this type of system. We won't replace the red vans with drones and be successful.
- Zookal and Flirtey are delivering textbooks in Australia to college students via drone.
    - Privacy concerns.
    - Use Android app so the delivery isn't identifiable by location.

- - ○ Security concerns.
    - ○ Customer has to send an accept command from their phone before package is lowered.
  - ● China is already using drones extensively.
  - ● Drones are being used extensively in Agriculture
    - ○ Even in Wisconsin!
    - ○ Perfect for a discussion series about drones.

Beyond Physical Delivery
- ● Google acquired Titan Drones to support Project Loon
  - ○ Delivers LTE speed Internet access to remote areas.
  - ○ Originally used balloons, but they are carried by the whims of the stratosphere.
  - ○ Drones can hold location and stay in flight for longer periods of time.
  - ○ Can cover roughly 25 square miles of territory.
  - ○ Think of the implications this would have on library service if we offer it!
  - ○ Think of the implication on library service if someone ELSE offers it (Google, municipality, etc.)
- ● MIT created SKYCALL a service that escorts students to specific places on campus.
  - ○ The drone not only follows a preset path from point A to B, it interacts with the person.
  - ○ Adjusts its speed in response to the speed of the follower.
  - ○ Able to travel both outdoors and inside buildings.
  - ○ Points out landmarks on the way.
  - ○ History or Literary tours?

References:

ALA Trend: Drones http://www.ala.org/transforminglibraries/future/trends/drones

What is a drone? https://youtu.be/_fTpOkCMWHM

FAA Ruling on non-recreational drone use:
http://www.faa.gov/news/press_releases/news_story.cfm?newsId=18295

First Legal Drone Delivery in the US:
http://mashable.com/2015/07/20/legal-drone-delivery/#61LyPyeUuSkl

Finish Post Office tests drones for parcel delivery:
http://www.reuters.com/article/2015/09/14/us-finland-postaldrone-idUSKCN0RE15E20150914

Google using drones to support Project Loon:
http://www.techtimes.com/articles/36674/20150302/publish-mwc2015-google-titan-drones-loon-balloons-bringing-wireless-everywhere.htm

MIT's SKYCALL: http://senseable.mit.edu/skycall/

Drone Delivery is Booming in China:
http://blogs.discovermagazine.com/drone360/2015/03/27/drone-delivery-china/#.VfcxTk9Viko

Drones + X:
http://techcrunch.com/2015/09/13/drones-plus-x/?ncid=rss&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:+Techcrunch+(TechCrunch)&sr_share=twitter

Interest in Drones Soars at Wisconsin Farm Technology Days:
http://www.agweb.com/article/interest-in-drones-soars-at-wisconsin-farm-technology-days-NAA-associated-press/