A New Generation of Ham Radio

Fun - Technology – Relationships

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Where are We Now?

- In transition...
- Previous versus emerging standards
- New "customer" requirements
- Online communities 24/7/365
- New activities, procedures, publications, goals

What is the Transition?

- SDR taking over the radio
- Digital modes are blossoming
- Massive amounts of processing
- Focus on systems and automation
- It's all about the community
- Antennas & propagation know-how will still rule
- What will the FCC allow?

Ham Radio 2.0

- Many different communities
- All levels of students
- Young adults and free-thinkers
- Public service, applications, systems
- Built on evolving technology
 - With the help of mentors
 - On top of basic radio know-how

Focus on Technology

- Arduino, R-Pi, PICaxe, FPGA yikes!
- Hamnet high-speed networking
- RBN, PSKReporter, WSPRnet hybrids of Internet and radio
- SDR from dongles to "real radios"
 - New UI = New mental model of radio
- Modes to deal with noise and low SNR
- Physical science and data

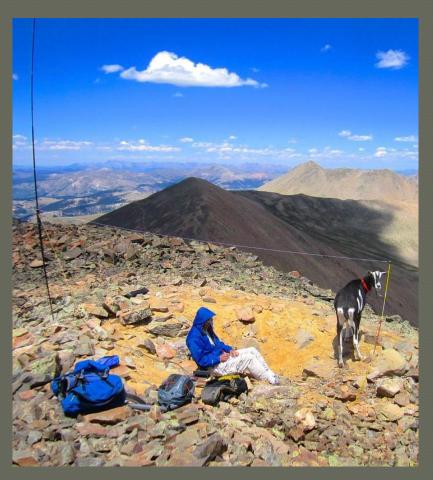
Out and About

- Mobile
- Portable
- Low power
- Remote control
- Stealth
- Clubs and "spaces"
- Shared systems



Out and About

- Mobile
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- Nano-power
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WGØAT – Goat Portable

Focus on Relationships

- Relationships hold us together
- Build a group
- Build a community
- Get together online and physically
 - Have fun together
- Sustain your community
- Interact with other communities

Don't Forget the Fun Part

- It can't all be about the code
- Celebrate innovation
- Drill holes in and break stuff
- Compete and compare
- Have parties, picnics, hikes, hamfests
- Use existing hamfests and conventions
- Pizza!

Fun Example - YOTA

YOTA – Youngsters on the Air

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www.ham-yota.com



Fun Example - YOTA

- YOTA Youngsters on the Air
- Ages 15-25, more or less
- Big presence in Europe, starting in Japan
- Special call signs
- In-person conventions (YOTA-2017)
- Operating events

Fun Example - CARI

Collegiate Amateur Radio Initiative

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Fun Example - CARI

- Collegiate Amateur Radio Initiative
- Connecting the clubs on Facebook
- Sharing successes and suggestions
- Re-activating some long-dormant calls
- Clubs recruit and build on social media
- Possible competitions?

Fun Example - HamSCI

Ham Science Citizen Investigation

Fun Example - HamSCI

Ham Science Citizen Investigation



Fun Example - HamSCI

- Ham Science Citizen Investigation
- Organized around the solar eclipse
- Sponsored the Solar Eclipse QSO Party
- Undergrad, graduate, post-doc, faculty
- Now attracting Serious ScientistsTM
 - HAARP, Arecibo, Universities, ???
- Building an online community
- Sharing papers, posters, projects

Sustaining Critical Mass

- Sharing and cross-connections
 - Builds interest
 - Stimulates ideas and brainstorming
 - Attracts more people
- Evolve and grow
- Don't be isolated!
- Don't be afraid to change!

My Advice

- If it's legal try it and publicize it
- Free from traditional FDMA planning
- Hybridize online immediately and widely
- Repurpose on-the-air events and activities
- Provide public service and information
- Soak up know-how from existing experts
- Ignore the trolls and grouches

"The future is here - it's just not very evenly distributed."

- William Gibson

"When I say the word 'future' the first syllable already belongs to the past."

- Wislawa Symborzska

Go For It! – Q&A – Thank You