Context Awareness
Moderators remarks

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What do we mean by "context awareness"?

- Mitola's conception of cognitive radios included awareness of
  - Spectrum
  - Regulations
  - Organizational context
  - Etc
- … to decide how to transmit the user's information

Taxonomy of spectrum sharing

	Non-Cooperative	Cooperative
Primary	**Unlicensed, WiFi**	**Secondary markets (spectrum license trading)**
Secondary	**Easements, Opportunistic use, TV White Spaces, UWB**	**MVNO, secondary use (negotiated)**

From Weiss and Lehr http://d-scholarship.pitt.edu/2824/

A take on the DSA problem space

		Spatial Characteristic		
		Static	Periodic	Stochastic
Temporal characteristic	Static	TV White Spaces	Sensor network	CDMA + traffic
	Periodic	Daytime broadcast	Mechanical Radar	
	Fast periodic	LTE cell site		LTE + Traffic
	Stochastic	WiFi		Public safety

From Weiss et. al., TPRC 2010 (forthcoming)

How do we determine context?

- Databases
- Cooperation
  - Bargaining
  - Markets
- Sensing
  - Radio based
  - Sensor network based

Challenges

- Which approach fits the problem you're trying to solve?

- How do you establish broader context in each environment with each context awareness approach?