Summary
This course will offer students a broad but hands-on introduction to technologies of human self-organization.

Content
The course will present students with a view of self-organization technologies set in a long-term historical perspective, extending from their roots in ancient principles of democracy and governance, up to recent high-tech innovation such as social networking, e-voting, blockchains, and delegative democracy. The course will cover the many fundamental organization challenges these technologies attempt to address, such as:

- Coordination: do participants communicate in person, electronically, or by passing secret notes?
- Membership: who has the right to participate as a member or citizen? Can membership be faked?
- Equity or fairness: how much power or weight does each participant have? Can weight be hacked?
- Filtering: how to separate signal from noise, real expertise from appealing bluster?
- Scalability: does the self-organizing technology work for only 10 members, or 100? 1000? 1 M? 1 B?
- Integrity: how does self-organizing technology prevent hacking or tampering by malicious parties?
- Self-determination: does the technology protect freedoms such as expression and association?
- Privacy: what acts of participation does the technology keep private, and what are considered public?
- Representation: is participation direct or representative? How are representatives chosen?
- Accountability: how are participants and/or representatives kept accountable for their actions?
- Transparency: does the technology allow participants to verify that it is operating correctly? How?
- Incentives: how does the technology encourage or incentivize people to use it, for good or ill?
- Psychology: how does the technology interplay with the unique properties of the human mind?

Learning Prerequisites
Important concepts to start the course
Basic computing and programming skills

Teaching methods
The course will lead students through an exploration of the vast number of different technological approaches to these challenges and issues, from extremely low-tech (e.g., picking representatives by drawing straws) to the latest experimental technologies. In different weeks the students will explore hands-on the architecture, design, practical use, and strengths and weaknesses of different self-organization technologies, such as:
• Social networking systems such as Twitter and Reddit
• Community self-organization systems such as Loomio
• Peer review systems such as HotCRP
• E-voting systems in use in around the world (especially the US and Switzerland)
• Experimental participatory delegative democracy systems such as LiquidFeedback
• Cryptocurrencies and smart contract systems such as Bitcoin and Ethereum

**Expected student activities**

In general, the course will encourage students to "learn by doing" through exercises with practical systems. Students will be required to use some of these systems in groups in "hands-on" self-organization exercises, to get firsthand comparative experience of how they work, and in what ways they succeed and fail.

**Assessment methods**

Students will be assessed through regular exercises and mini-quizzes, participation in "peer review" activities, a small project in the second half of the semester on which the students must report, and a written final exam.

**Supervision**

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