Name: mcp-395-cswg-workshop-review-ism-paper-draft
Title: Review ISM Paper Draft
Status: Draft -- anyone can edit.

See the [MCP index](#) to create or find documents, or [mcp-0-readme](#) for an overview.
The headers above are machine-readable; please preserve format.

Text checkins (10 mins)

- Steve
  - Distraction from hurricane Milton; family in Florida, been digging into forecast details.
- Richard
  - Nothing particularly new and exciting this week. Would enjoy some pix of the makerspace move. Looking forward to reading Steve's draft.
- Rebecca Snyder
  - Makerspace move - construction continues. Sunday had outdoor meeting on the porch with some tours, lots of positive reactions from people. Still much to do.
  - Laser cutter will be one of the first tools available, maybe next week. I have access to a 3d printer outside of the space as well. I have the embroidery machine from the makerspace in my car because I would like to work with that a bit.
  - Balloon Fiesta in Albuquerque, I wasn't making plans to go this year as it had kind of snuck up on me with the move, but of course everyone is talking about it now so I might try to get a park and ride ticket. Fiesta traffic might have delayed me leaving TI job today, although it is at least 5 miles from the field (there's also construction in that area so who knows)
  - Things have calmed down enough with the makerspace move that I've been able to do other fun activities like catching up on laundry and grocery shopping, etc.
  - Participating in a fix it clinic at the end of the month, organized by Albuquerque solid waste department as a keep it out of the landfill theme.
  - Learning about workflows in Losant, IoT platform for managing data flows
  - Learning about Notion, workspace app
- Donaldo
  - Getting projects complete for portfolio
  - Finished soldering kit for midterm
  - Just focusing on getting to a point of thinking less & just build
- Angela
  - I've been so busy since the quarter started
  - Missed an assignment last week because i didn't have time to do the reading
  - I don't know if i have time to do the next reading by tomorrow

- ○ i'm falling behind on a couple of projects
- ○ we're only in week 2!

Review ISM Paper Draft (70 mins)

- ● Presentation (10-20 mins):
  - ○ Go through paper
    - ■ https://github.com/promisegrid/paper-ism
  - ○ Decide attributions
  - ○ Agree on async workflow
- ● Feedback (30 mins):
  - ○ Structure similar to Steve's 2002 paper
    - ■ http://www.infrastructures.org/papers/turing/turing.html
    - ■ Add a brief history section
    - ■ Two part discussion: informal large picture impacts and then theory behind making it work
    - ■ Forward referencing (in inline references in this 2002 paper) to avoid knowledge gaps
    - ■ Provide a prediction section that serves as a test of the model
  - ○ Test out including implementation before the theory section
    - ■ (not today since discussion is not done yet)
  - ○ Discussion section
    - ■ History of devops, the two tracks Steve and Mark have been on, how this paper is a reconciliation between it all
      - ● Why does this matter?
        - ○ Discussion on how we use computers and govern organizations
    - ■ Definition of terms
      - ● Visual of a state machine
        - ○ Static states (also called 'nodes' in Graph Theory)
        - ○ Transitions (also called 'edges' in Graph Theory)
      - ● Chomsky hierarchy - finite state machine fits in the most basic category, 'regular' expressions
        - ○ Recursively enumerable - a general purpose computer, can be thought of as an infinite state machine
          - ■ What is enumerable? = countable, or in this case determinable
      - ● Infinite state machine
        - ○ Elements can be enumerated with a function (a 'transition function')
          - ■ You can get to a specific state by following 'hops' toward it
        - ○ A general purpose computer is 'effectively' infinite

- - - ○ Most git diagrams mislabel (or mis-read) as the commit messages are states and not the descriptions of the transitions between the states
          - Important to get right because PromiseGrid effectively a git-like version control system
      - Decentralized state machine - two state machines communicating to each other decentralized is still a state machine
      - Agent defined in the context of Promise Theory
        - Possible rube goldberg machine analogy
    - Duplications still present - make a to-do list item
    - Why it matters: how we use computers in organizations etc etc, if we do this right it will have resounding implications in history past our lifetimes
      - Humanity is early enough in computing that we are still "making it up as we go along" so we can still have a lot of influence on the future
      - Looking to build on work of great thinkers in computing in the past
    - Pure Functions and side effects
      - A pure function gets you the same output for the same input every time
      - An impure function produces side effects on the system that changes the behavior so that the same input does not always get you the same output
    - Promises can exist as completed and unfilled simultaneously
      - Must account for relativistic effects
    - Semantic Spacetime
      - It'd be helpful to have a visual graph that is carried throughout the paper
      - Especially a hypergraph for this section (with directed edges)
    - Next week:
      - Pick back up on hypergraphs and semantic spacetime
  - ○ Acknowledgements section
    - Steve to confirm with each person this week
- Workflow going forward:
  - Steve works in github, accepts PRs
  - Feel free to send Steve a PR
  - Steve wil post significant commits and questions to CSWG discord

Plan next workshop (10 mins)
- go to workshop proposals (mcp-369), follow the instructions there, replace this bullet point with the link to the new doc