Mutual Monitoring Update

Progress Report 4

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Problem

- Cloud service providers are everywhere, but their security is complex.
- Continuous monitoring is complex, tedious multi-party process.
  - FedRAMP is a very public example.
- Everything is manual.
- Information flows in one direction, not to everyone who needs it.
- Is there a better way?

Solution

- Examine FedRAMP as a representative example.
- Re-imagine a new system with:
  - a new technological approach; and
  - change the process and how people interact.
- Estimate improved cost and performance.

Solution Deliverables

🎁 1️⃣ Critical analysis of FedRAMP

🎁 2️⃣ Architecture specification

🎁 3️⃣ ~~Prototype code for mutual monitoring transparency service~~

🎁 4️⃣ A quantitative cloud security measurement framework

💥 🔍 Evaluation results

Status

- 🎁 1️⃣ I completed the draft of FedRAMP's critical analysis.
- 🎁 2️⃣ I updated the architecture specification.
- 🎁 3️⃣ I wrapped up development on the transparency service, ~~removed it from final deliverables~~.

Status

- 🎁 4️⃣ I created a preliminary quantitative measurement framework for cloud security.
- 💥 🔍 I continued development on Monte Carlo methods for quantitative evaluation.
- 💥 🔍 I coded all FedRAMP 20x Working Group comments for qualitative evaluation.

Challenges

- Deferring my favorite part of the project for later
- Consistently performing user experience interviews as designed

Questions

1. I will interview stakeholders, what **must** I publish with the final paper?
   - interview methodology?
   - interview questions?
   - detailed (but properly redacted) interview notes?

Next Weeks' Focus

- Final touches on:
  - 🎁 1️⃣ the critical analysis of FedRAMP
  - 🎁 2️⃣ the architecture specification
- 💥 🔍 Complete user experience interviews
- 💥 🔍 Complete project evaluation
- 🛳️ 🚀 Start the final paper

Feedback

- You can provide feedback in multiple ways.

- Post in the class discussion board in Canvas.

- Open issues in my GitHub repo at github.com/aj-stein/practicum/issues.

Conclusion

Et fin.

(See you all again in two weeks.)