NSF REU 2026
Week 9

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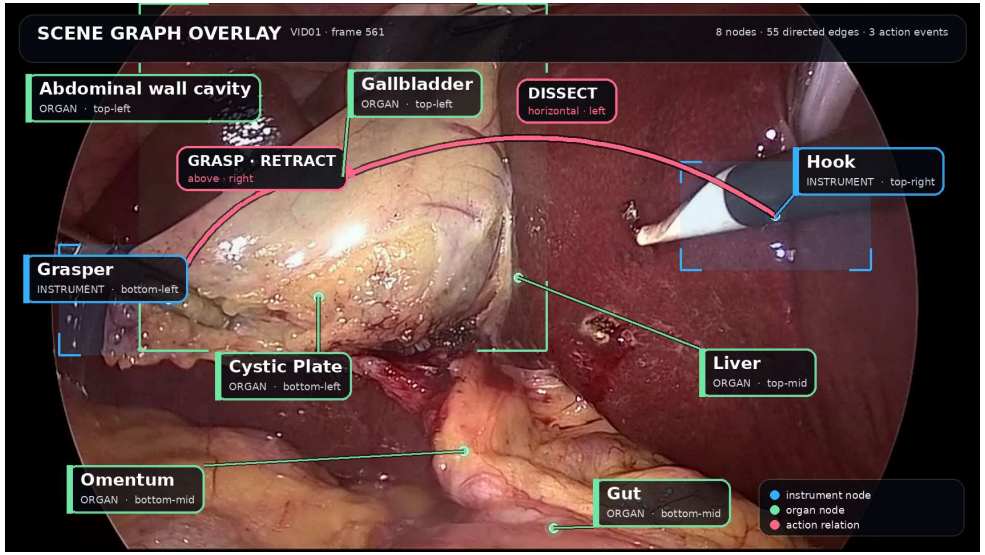
Timeline

- Week 8
  - Add more information about the custom dataset
  - Generate simple scene graphs from ground truth, one for reach frame
  - Train LLM-0 (train/test: 40/5) using LoRA
  - Test VQA (ground truth from SSG-VQA)
- Week 9
  - From the existing ground truth, generate a template for adding temporal questions
  - Train LLM-t (train/test: 40/5)
  - Test VQA-t
- Week 10
  - Write report
  - Create poster
  - Presentation

Non-temporal QA LLM

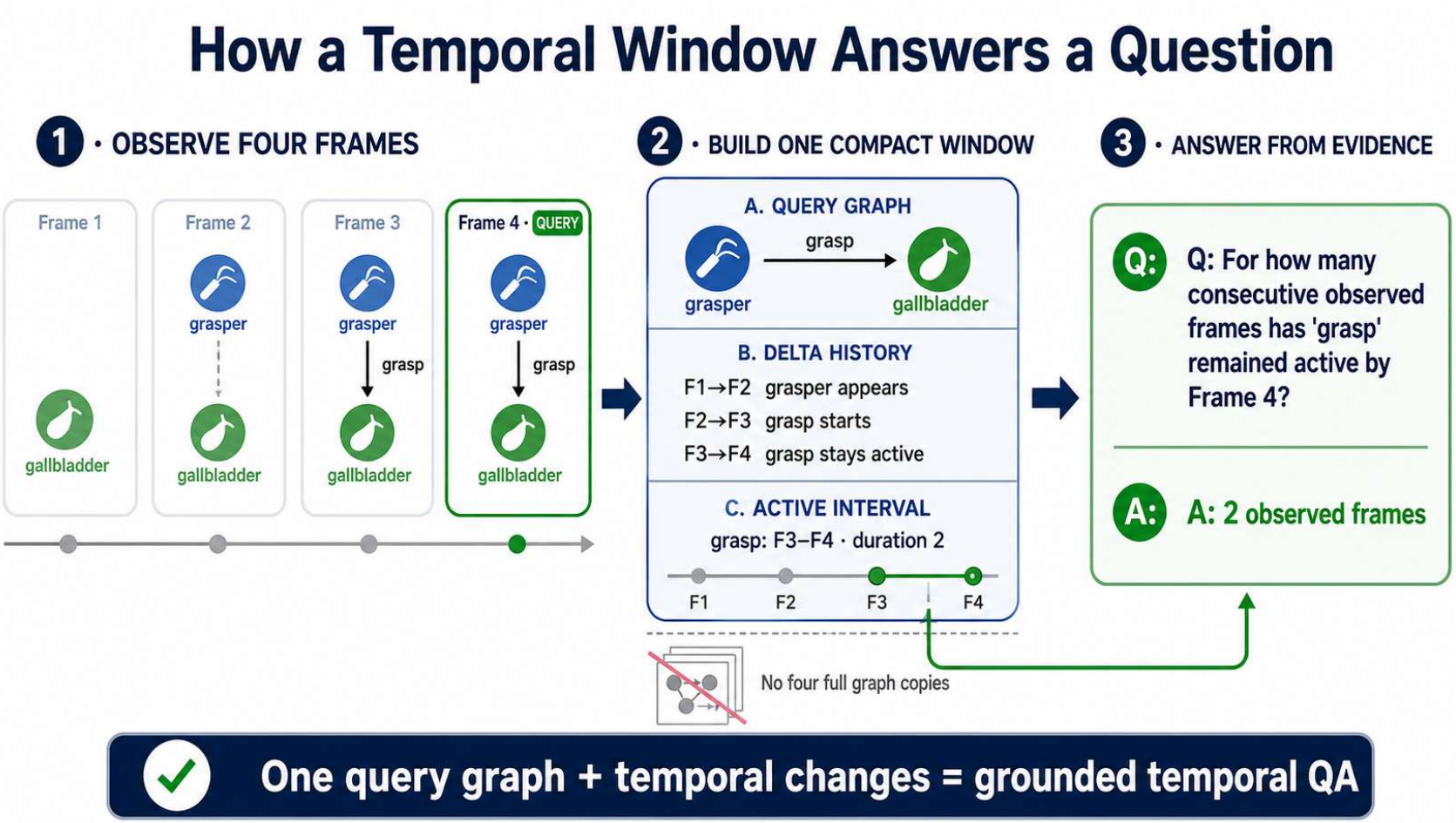
- ~73% accuracy



Dataset

- 18,481 frames across 40 videos
- 230,520 non-temporal questions/answers
- 73,434 generated temporal questions/answers
  - Node change: Did an object appear or disappear?
  - Relation change: Did a relation start or end?
  - Relation duration: How long has a relation remained active?
  - Node identity : Which object appeared or disappeared?
  - Relation identity: Which action or relation changed?
  - Relation start: At which observed frame did the current relation begin?
  - Change count: How many node or relation changes occurred?

Temporal storage



- To do: Implement notation for actions lasting longer than 4 frames

Next steps

- Complete poster!
- Expand past 4 frame questions
- Validate temporal questions