

1. Motivation

- What was the name of that restaurant where I was
 - with Mary?*
 - last Month?*

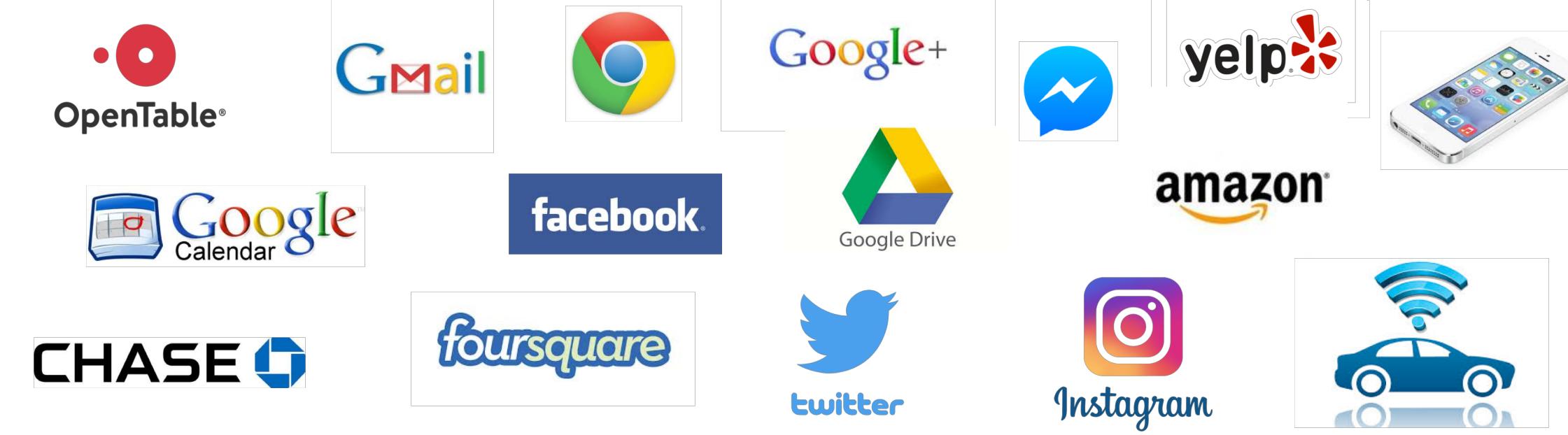


- Some sources of helpful data

"with Mary": calendar, emails, text

"restaurant": check-ins, cell phone GPS logs, credit card statements, reservations

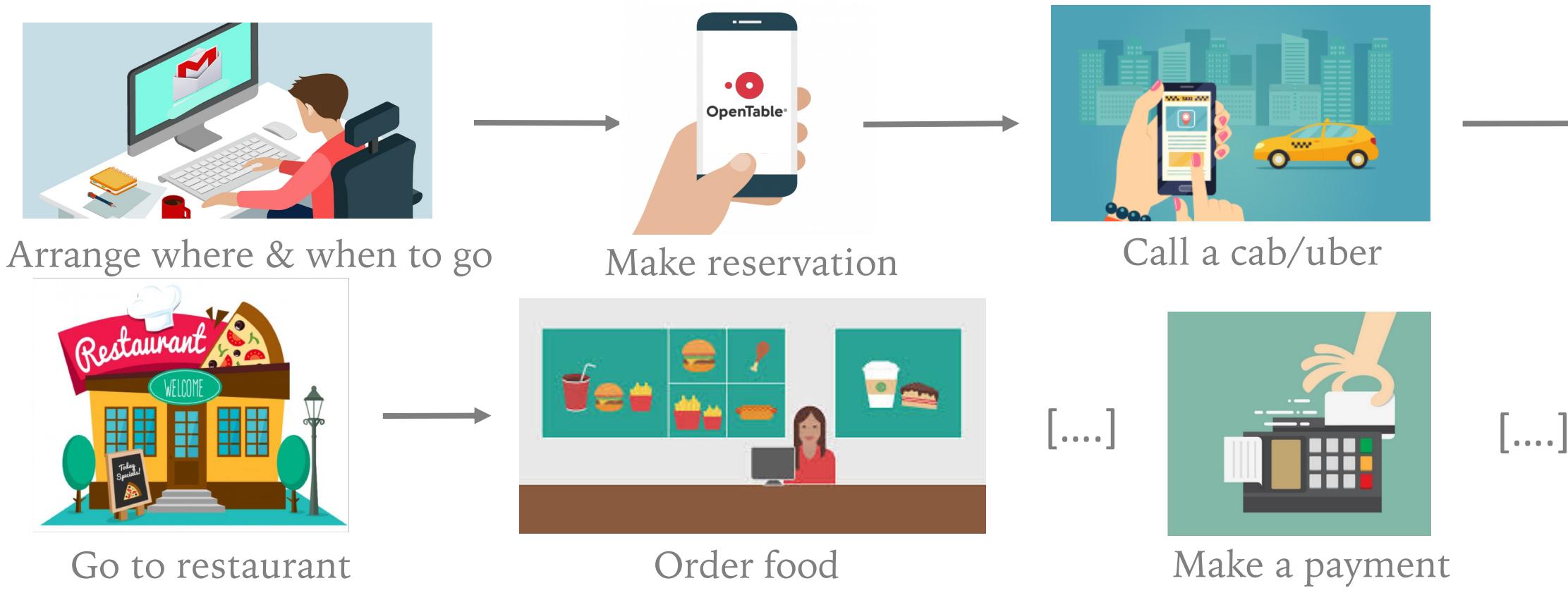
- Problem: Personal data is fragmented, heterogeneous**



4. Ontology for Scripts

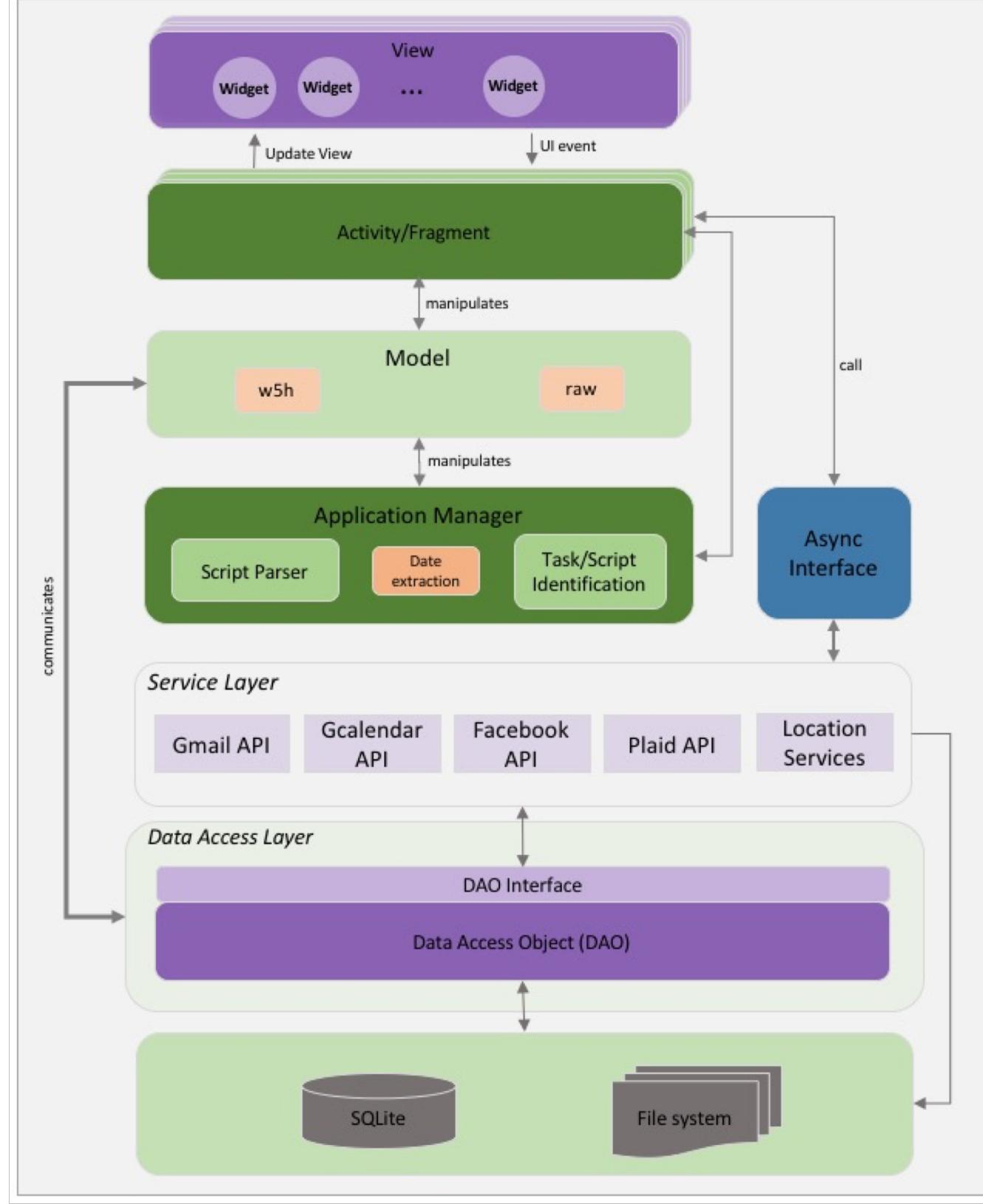
- Atomic event:** described by w5h, extractable from docs

- Script:** describes possible event/sub-script flows & aggregates w5h information from them



- Candidate script instances** created from actual docs and scored for likelihood

6. Architecture



8. Discussion

- Any approach to retrieve user memories of events must consider several sources to adapt to the wide variety of user behaviors.
 - The quality of the information given by different sources vary.
- Problems:**
- Misclassified "restaurants" in bank statements -Use of Google Maps -Partial success
 - no NLP, so we miss "*cannot make it for dinner*"
 - Personalization issues: each person uses PDTs consistently but very differently (e.g. shared bank accounts)
 - Constantly changing APIs.

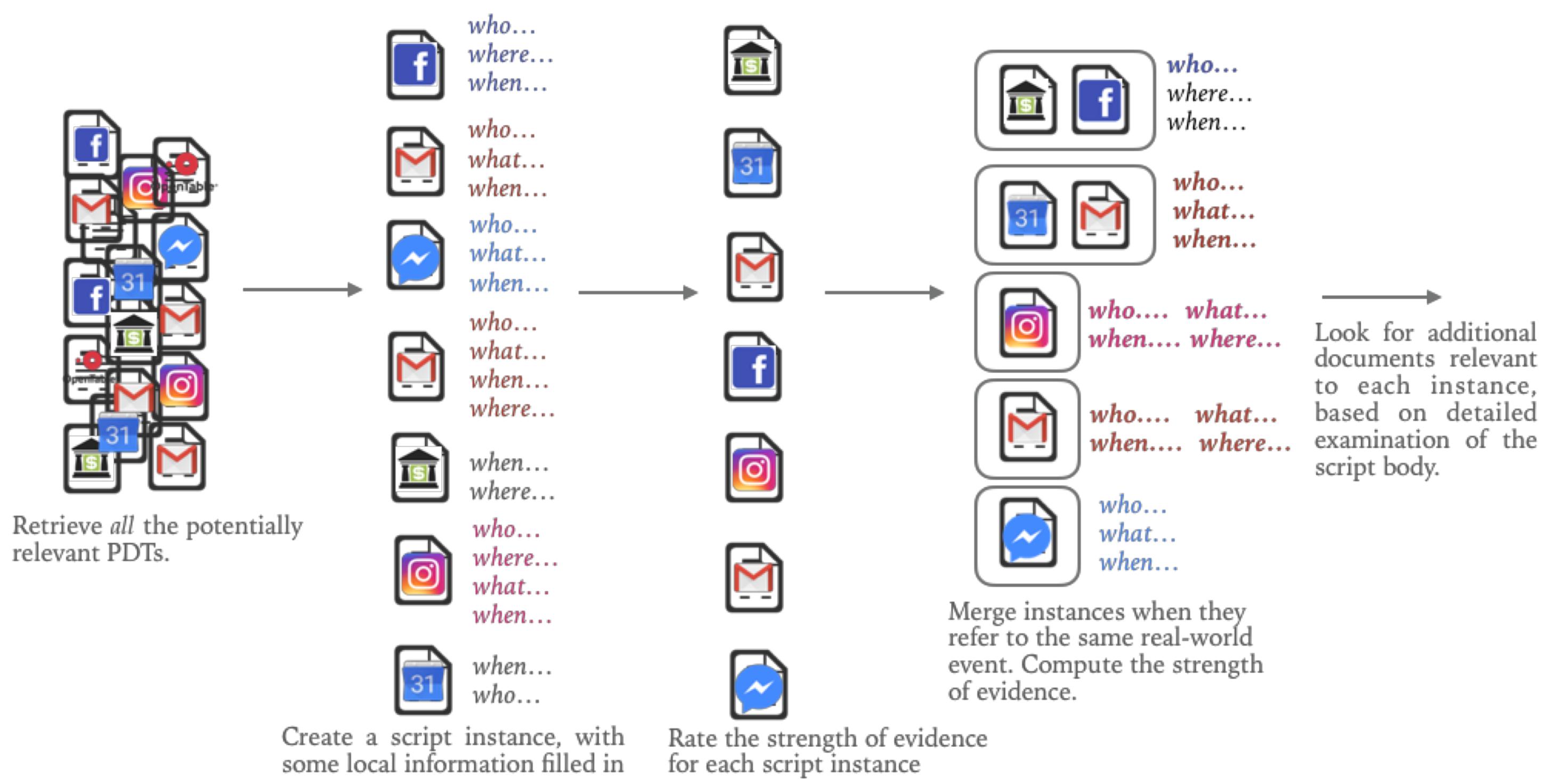
2. Background

- Research in psychology: Episodic memory – memory of autobiographical events. Scripts – stereotypical plans whose instances form part of the episodic memory.
 - Natural way to remember past events is by pertinent contextual information
- Answers to: **What, When, Where, Who, Why, How (w5h)**

3. Contribution

- Goal:** develop tools and techniques to organize, summarize, make inferences and personalize **personal digital traces (PDTs)**
- Current work's contributions:
 - Episodic script model** to link and represent PDTs and their episodes. [ODBASE '17]
 - Algorithm** to find and combine evidence from PDTs for creating episodic memory instances and filling properties. [ExploreDB '17@SIGMOD/PODS]
 - Case study & experimental evaluation** : "Going out to eat at a restaurant"
 - Interactive tool** with narrative views of users' digital memories. [CIKM '18]

5. Algorithm



7. YourDigitalSelf

- A Personal Digital Trace Integration tool - Android app

