Scenic/PEEX: Extracting Probabilistic RFID Events

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FORALL Sightings S1, Sightings S2, Sightings S3, Sightings S4, AntInside A1, AntInside A2
WHERE SEQ(AND(S1, S2), AND(S3, S4)) AND S1.ant = A1.ant AND S3.ant = A2.ant AND A1.room = 'Alex's office' AND A2.room = '2nd floor coffee room' AND S2.ant = S1.ant AND S4.ant = S3.ant AND S1.tag = 'Alex's person tag' AND S2.tag = 'Alex's mug' AND S3.tag = S1.tag AND S4.tag = S2.tag AND abs(S1.time - S2.time) < (10 * 1000000) AND abs(S3.time - S4.time) < (10 * 1000000)
CREATE EVENT AlexGetsCoffee E
SET E.room_descr = H2.room_descr
INSERT INTO E_AlexGetsCoffee(room_descr, time_mean, prob)
SELECT DISTINCT H2.room_descr, latest(S3.time_mean, S4.time_mean), S1.prob*S2.prob*S3.prob*S4.prob*C.prob
FROM E_AlexandraSightings S1 CROSS JOIN E_AlexandraSightings S2 CROSS JOIN E_AlexandraSightings S3 CROSS JOIN E_AlexandraSightings S4 CROSS JOIN H_AntInside H1 CROSS JOIN H_AntInside H2 JOIN C_One C ON (S1.ant_id = H1.ant_id AND S3.ant_id = H2.ant_id AND H1.room_descr = 'Alex''s office' AND S2.ant_id = S1.ant_id AND H2.room_descr = '2nd floor coffee room' AND S4.ant_id = S3.ant_id AND S1.tag_descr = 'Alex''s person tag' AND S2.tag_descr = 'Alex''s mug' AND S3.tag_descr = S1.tag_descr AND S4.tag_descr = S2.tag_descr AND abs(S1.timestamp - S2.timestamp) < 10 * 1000000 AND abs(S3.timestamp - S4.timestamp) < 10 * 1000000 AND C.tag_descr= S1.tag_descr AND latest(S1.time_mean, S2.time_mean) <= latest(S3.time_mean, S4.time_mean))
WHERE (latest(S3.time_mean, S4.time_mean) >= (SELECT curValue FROM MyPeex_Vars WHERE varName = 'cur_max_timestamp_processed') AND latest(S3.time_mean, S4.time_mean) <= (SELECT curValue FROM MyPeex_Vars WHERE varName = 'cur_max_timestamp_processed') + (SELECT curValue FROM MyPeex_Vars WHERE varName = 'window_size'))
GROUP BY H2.room_descr, latest(S3.time_mean, S4.time_mean), S1.prob, S2.prob, S3.prob, S4.prob, H1.prob, H2.prob, C.prob

Digital Diary Application

- Tracks user’s events over time
- Displays events in a Google calendar
- Users can review:
  - How they have spent their time
  - Where time was spent
  - With whom
  - What was done (eventually)
  - Calendar labels allow separation of events (e.g. “Work Related”, “Fun Stuff”)