

# Privacy Negotiation using a Mobile Agent

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## Definition

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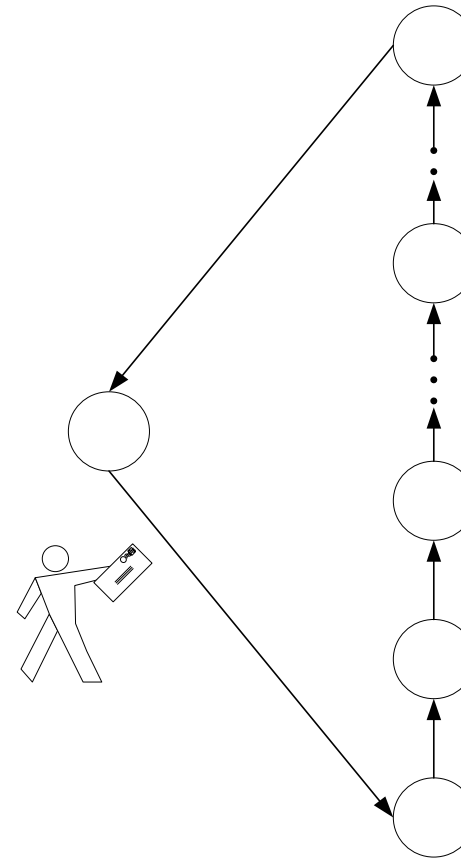
- Platform for Privacy Preference (P3P)
- XPath based Preference Language (XPref)
- Mobile agent

- Websites do publish their privacy practices but sometimes they are either too long or too hard to understand for many users, which leads to an unintentional consent to release their personal information
- One major limitation of Platform for Privacy Preferences (P3P) is that no support is given within the specification for negotiation of privacy preferences between a user and a Web site

- Client Server Architecture
  - ❖ How?
  - ❖ What are the problems?
- Mobile Agent Architecture
  - ❖ What are the advantages?

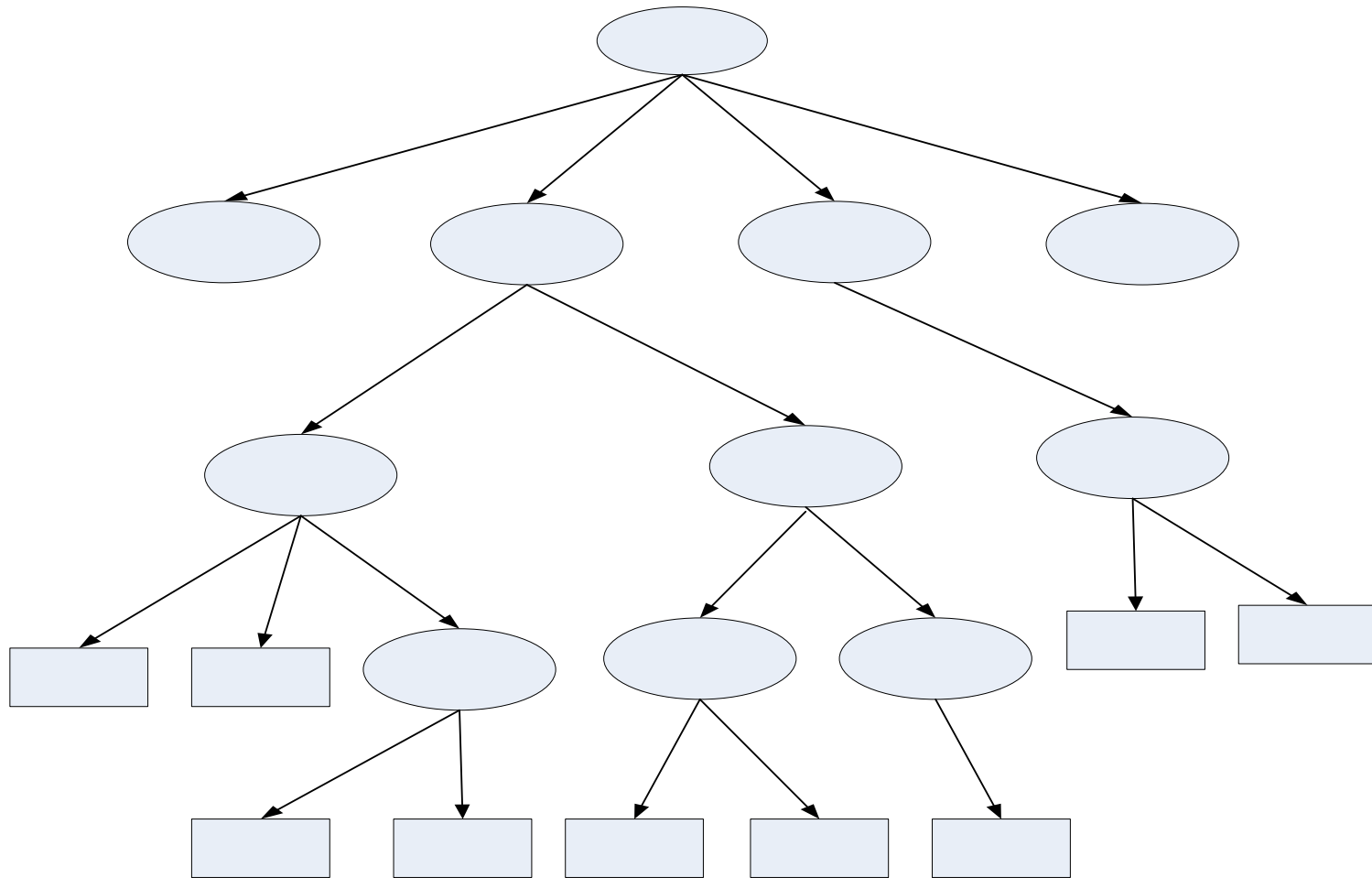
## Proposed Architecture

- Mobile agent starts from origin host  $P_0$  travels to  $P_1$ , then to  $P_3$ , and so forth
- At each host, mobile agent does negotiation and collects trace offer  $O_n$
- After visiting all hosts, mobile agent returns to the origin host with collected trace offers  $\{ O_1, O_3, O_5, \dots, O_{n-1}, O_n \}$
- Now, origin host evaluates each offer and chooses the optimal trace offer



- Negotiation is done on four entities over the user preference i.e., Data, Purpose, Recipient, and Retention
- User preferences are collected on the basis of the transaction type and their sensitivity

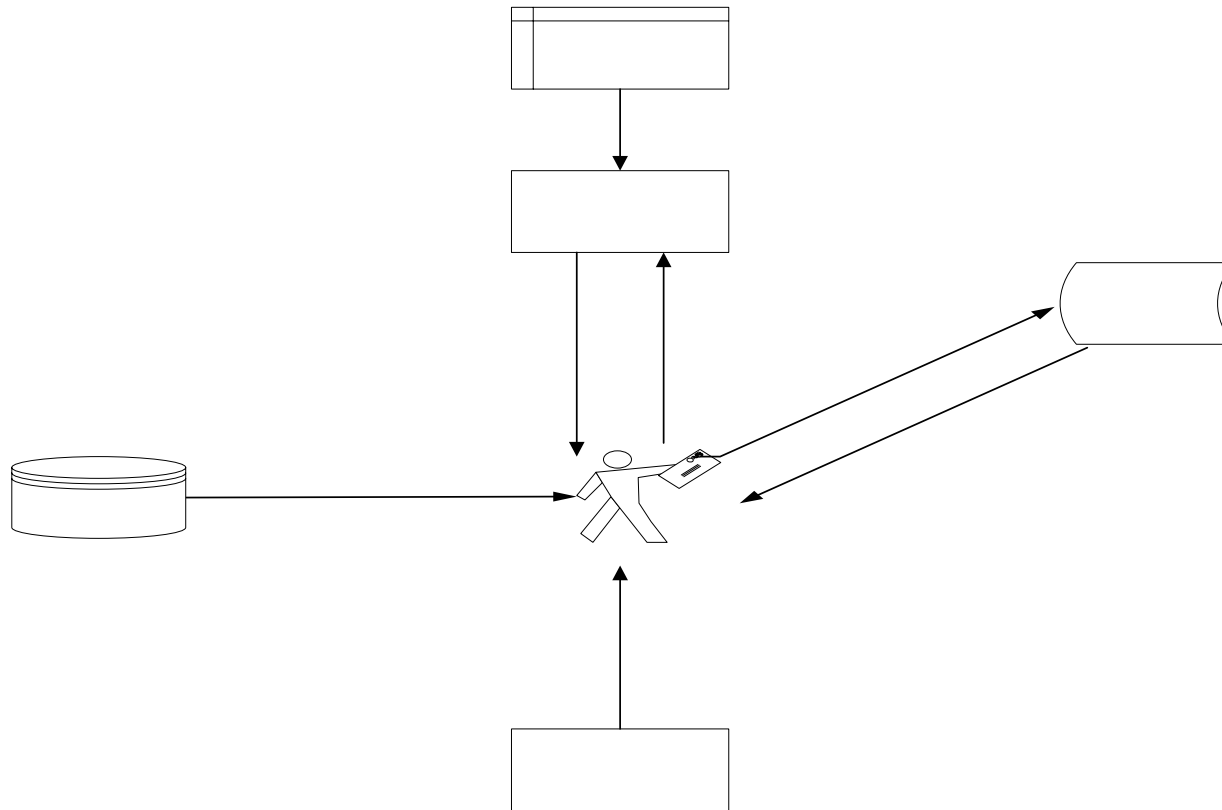
# User Preference Collection & Representation



- The complete negotiation architecture works in three processing phases
  - ❖ Pre-processing Phase
  - ❖ Negotiation Phase
  - ❖ Post-processing Phase

## Processing Phases (Contd.)

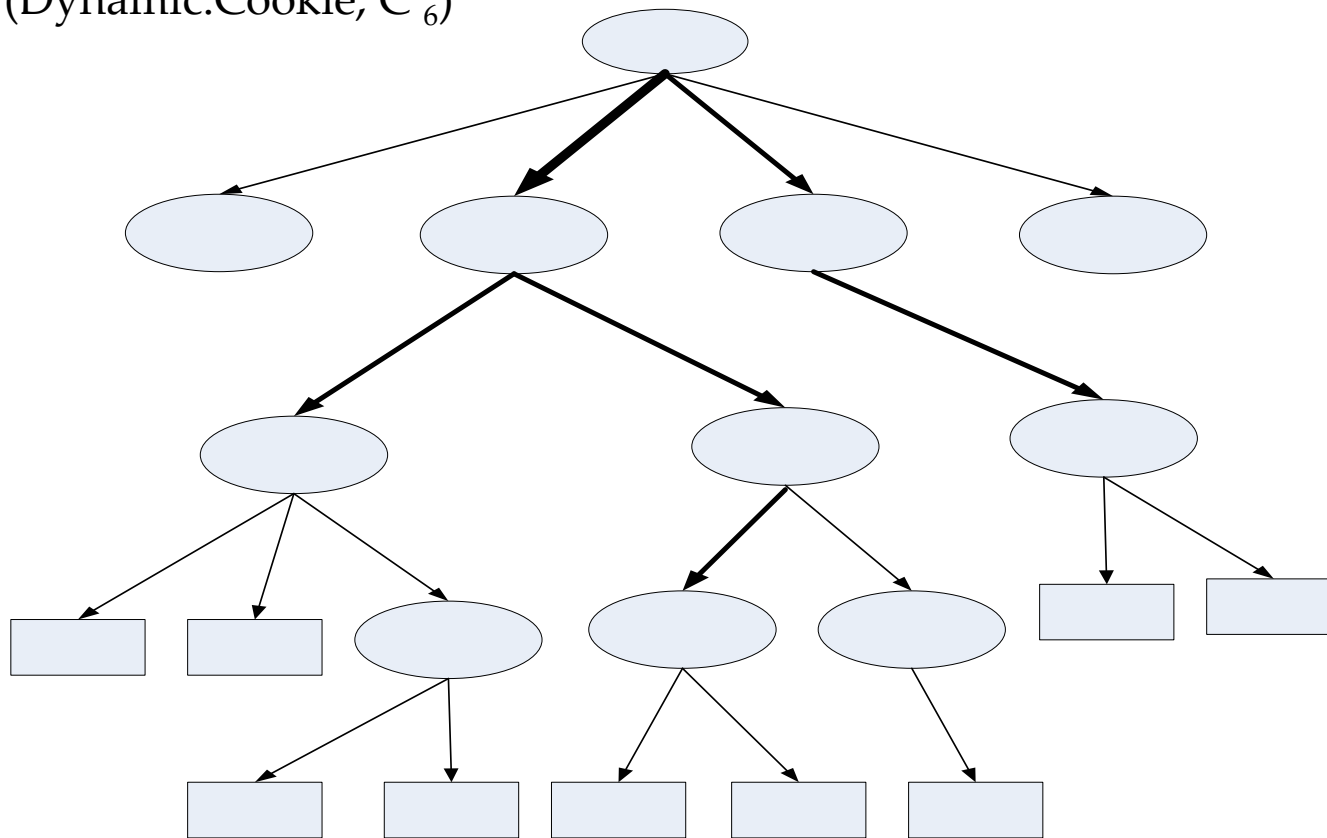
Figure: The various operations performed by the agent in the pre-processing phase (numbers indicate the sequence of operation)



- Negotiation Phase
  - ❖ It involves exchanging offers and counter-offers between the mobile agent and the host

## Processing Phases (Contd.)

- If the host offer is (User.Name,  $C'_1$ ), (User.Telecom.Telephone,  $C'_4$ ), (Dynamic.Cookie,  $C'_6$ )



- Post-processing Phase
  - ❖ This phase refers to the processing after the negotiation phase which includes requesting the host to sign the trace offer agreed upon, or dummy trace data if the negotiation was not successful
  
- This way after visiting all the hosts in the itinerary list, agent returns to the origin host

- What does this particular technology achieve?
- Where would it be used?
- What are the alternatives that could be used?
- Advantages of the current architecture?

Q's?