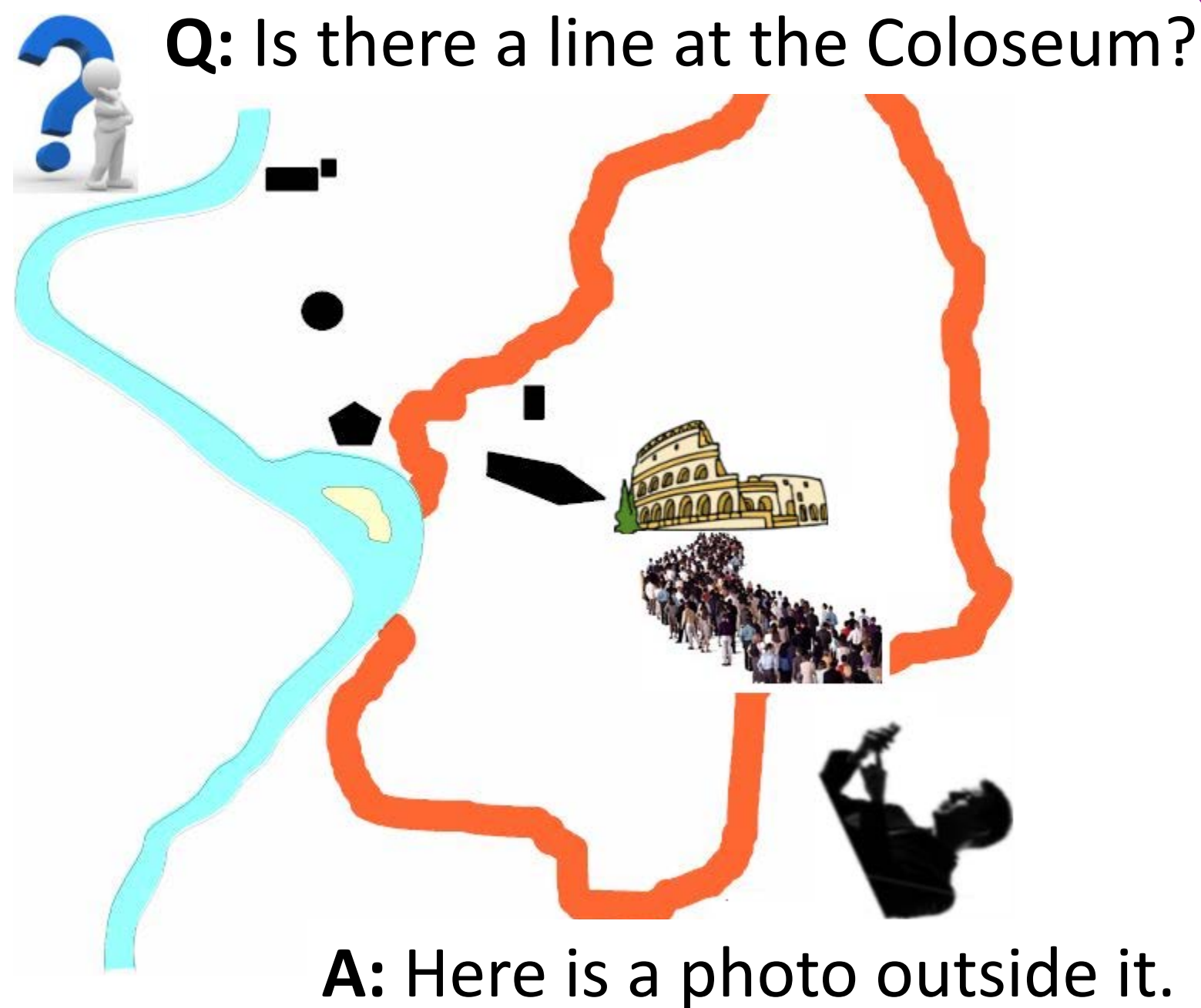


# QuestCrowd: A location-based question answering system with participation incentives

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## Background

### Scenario



- QuestCrowd enables users to ask either real-time or factual questions tied to a specific location.

### Challenges

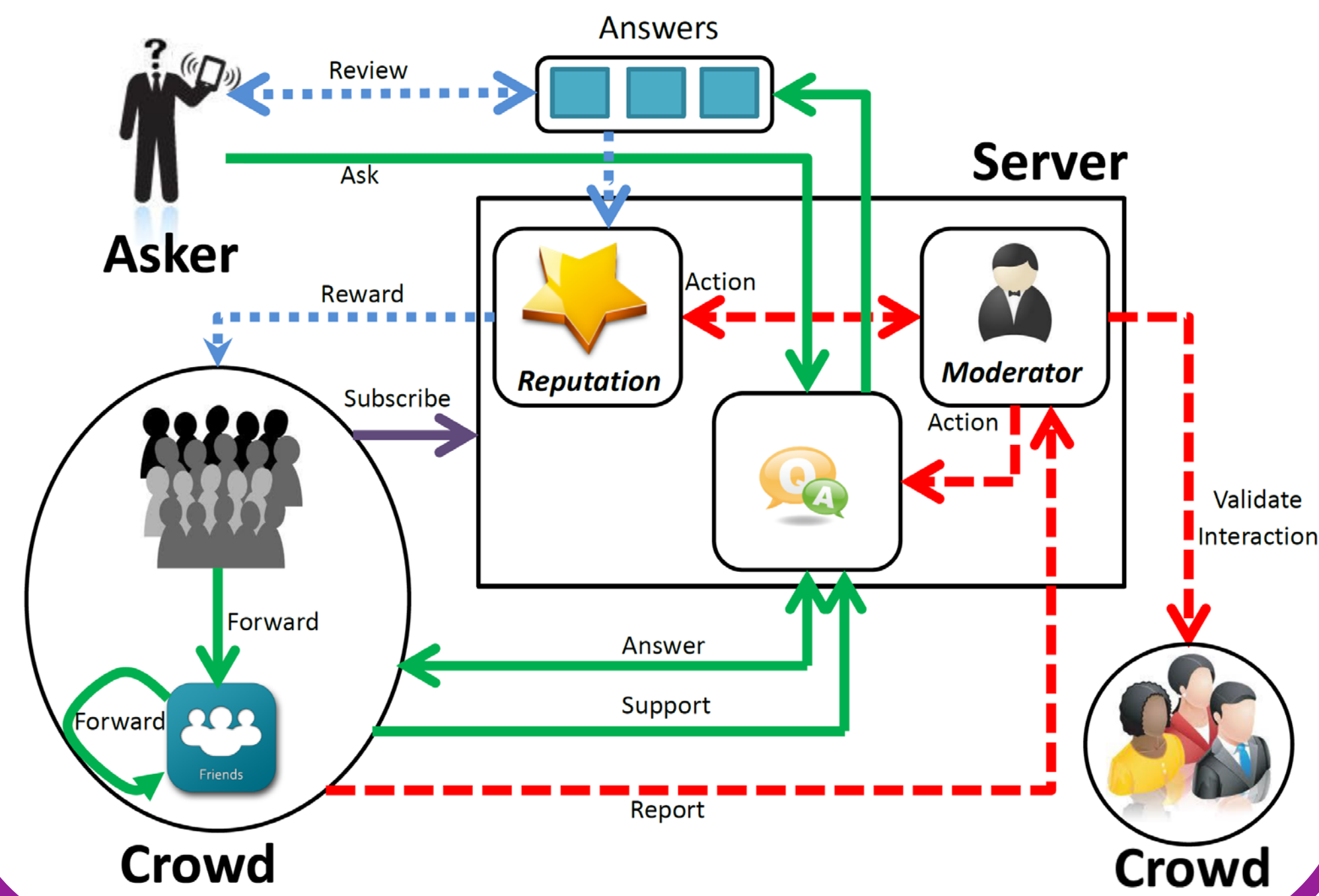
- Handling of location-based queries
- Promoting participation in the crowd
- Scalability issues with large number of users

### Related systems

- localmind
- Aardvark
- SocialTelescope
- Q&A on top of Twitter

## QuestCrowd System

### Architecture



### Participation incentives

- User reputation  $R(v)$  updated daily based on the sociogram of user interactions:

$$R(v) = R_{old}(v) + \sum_w Weight(w) \cdot Interaction(w, v)$$

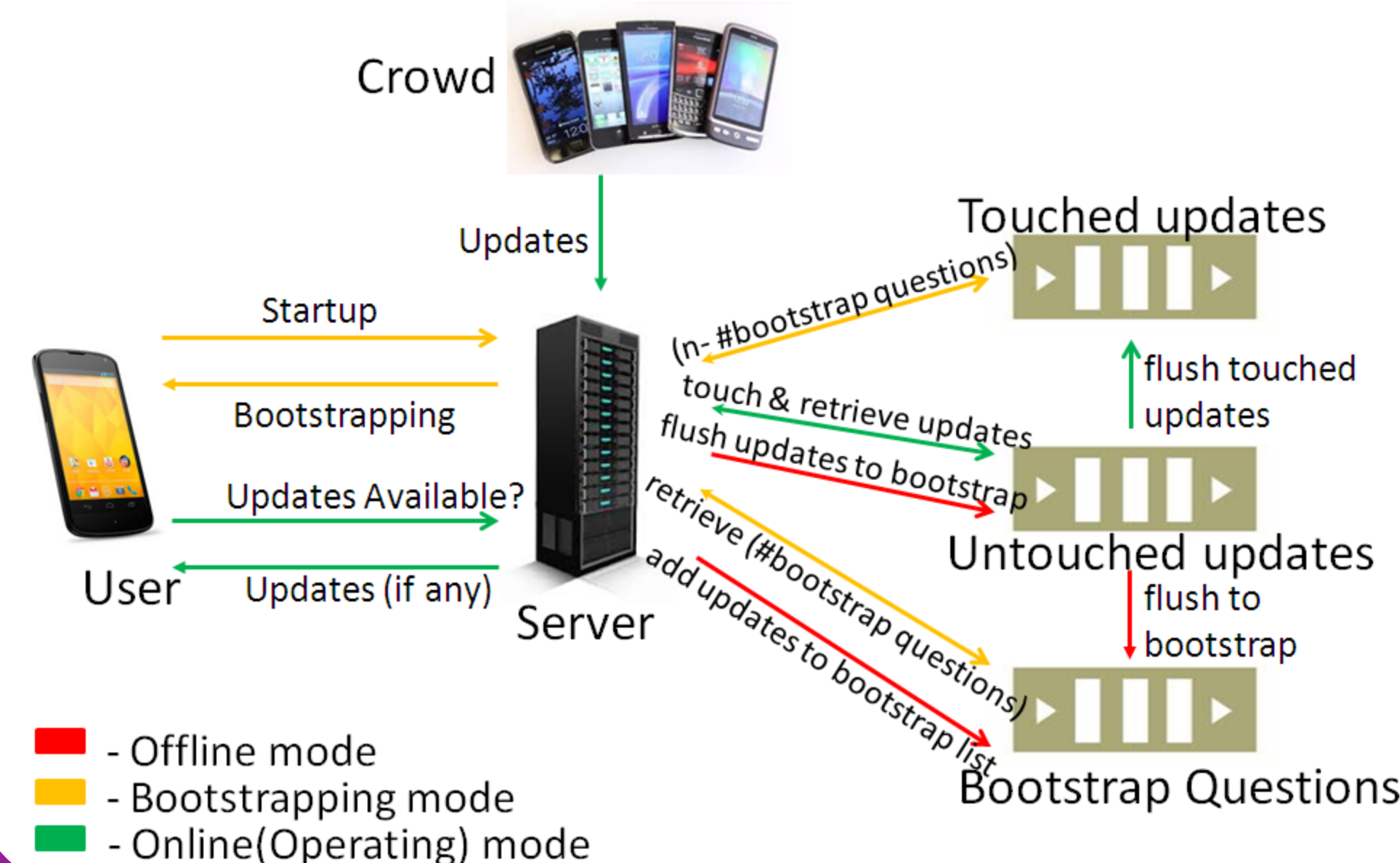
- Forwarding mechanism that leverages social graph.

- Score decides which questions appear higher in the Feed of user  $w$ . Key design mechanism that motivates participation and inhibits malicious activities in the system.

$$Score(q, v, w) = [R(v) \cdot P_{resp}(q, w) \cdot Stale(q)]^F$$

Asker      Response Probability      Time Elapsed

### Information Sync



### Android App

