



The Cloud in Your Hands – Marriage of Cloud Computing with Smart Devices

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David B. Johnson
Moderator

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Introductions



- Arjmand Samuel, *Microsoft Research*



- Danny Dalal, *Microsoft Research*



- David B. Johnson, *Rice University*



Arjmand Samuel
Microsoft Research

Today

- Introduce you to the Hawaii Services SDK from Microsoft Research
- Hawaii tech preview later in Spring this year. Towards the end sign up to be the first to know
- Use Hawaii SDK to develop a compelling cloud-enabled mobile scenarios
- Ask questions anytime, we will answer towards the end
- More question? Send to hiforum@microsoft.com



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Marriage of Cloud Computing with Phone



Phone offers ubiquitous connectivity and context awareness



Cloud offers near limitless resources and connectivity

Create innovative mobile apps
in very short time, with
simpler code



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Currently Available Hawaii Services

- **Optical Character Recognition** – takes a photographic image and returns text
- **Speech to Text** - takes a spoken phrase and returns text
- **Relay** - provides a relay point in the cloud
- **Rendezvous** - mapping service between human-readable names to endpoints

Future Hawaii Services

Face Recognition in the Cloud



Recognize Mike who is in
the picture I just took

Future Hawaii Services

Service Composition Framework



My app requires the OCR service and the translation engine



Composition Framework

Make one call to the cloud with the image and let the composition framework call multiple services in the cloud

Why Microsoft Research Project Hawaii?

- MSR provides cutting edge services
- Hawaii services tech preview by this coming spring
- Free to evaluate, and then a tiered subscription model
- **And now over to Danny**



Scenario : Scavenger Hunt



- Digging is hard work...
- Finding things is harder...
- Real things are hassle...
- Other scenarios ...
 - Geo Caching
 - Hide & Seek
 - Digital Graffiti
 - Location Based Advertising
 - Etc...



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What are we going to build ?

- Simple location based “digital” geo-cache or scavenger hunt
- Uses 2 services:
 - Microsoft Relay:
 - simple queues (en-queue, de-queue)
 - Microsoft Rendezvous:
 - simple lookup (string -> queue Id)

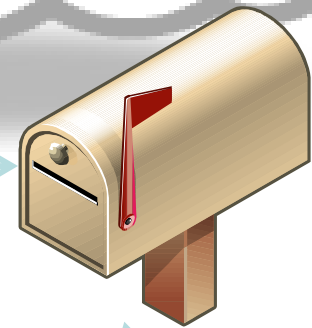
Relay & Rendezvous in the cloud



Connected Mobile Device



Clue or Item



Named Queue



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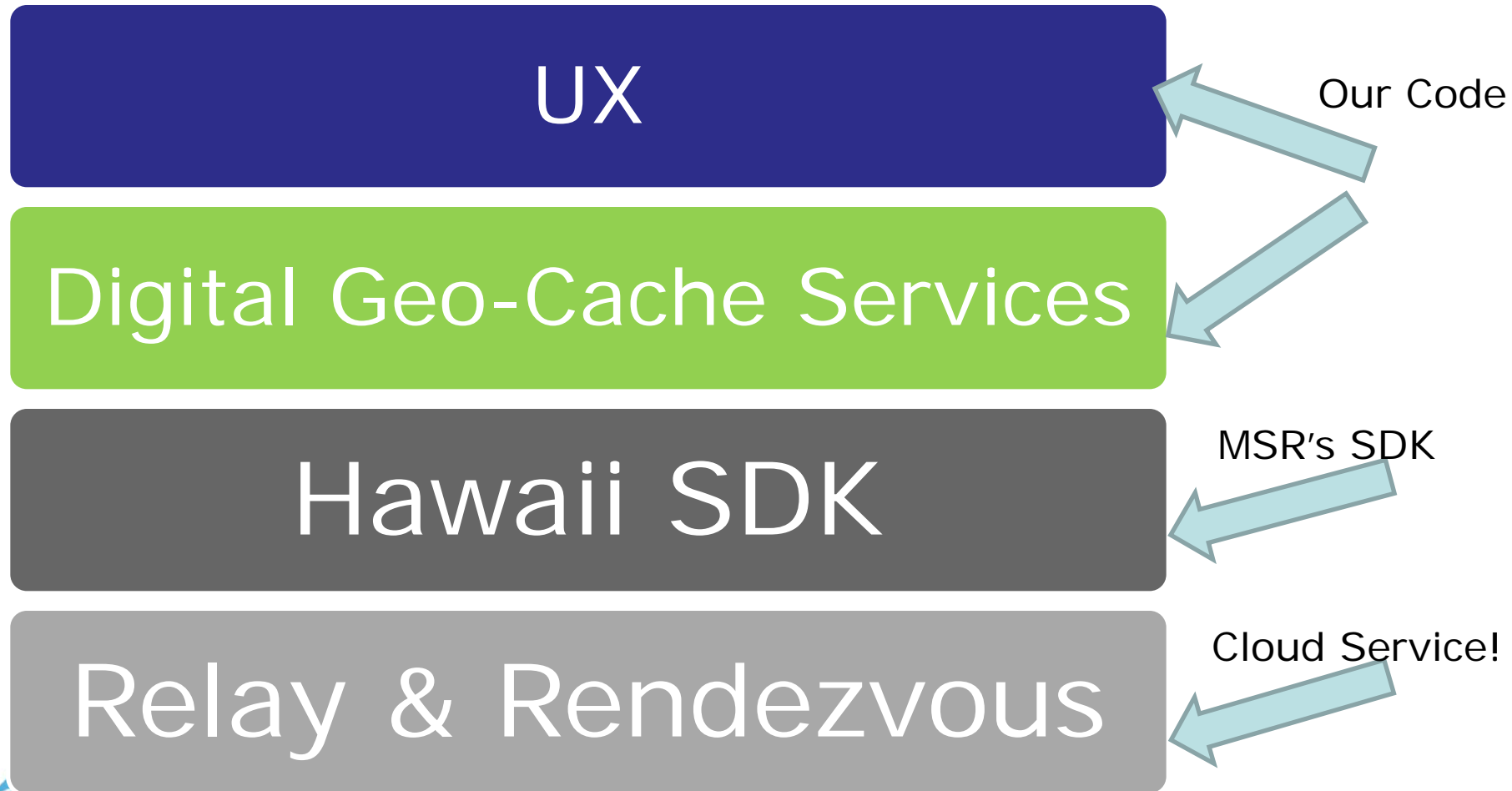
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Overview

- What are doing today (going to learn) ?
 - Design methods
 - Introduce Hawaii SDK
 - Create a simple UX
 - Test it ...

Logical Cake Diagram



High level arch

- Digital Geo-Cache Services
 - LookUp(gps_coords, groupName) -> endpointId
 - GetItem(endpointId) -> item
 - PutItem(endpointId, item)
- Our simple ux:
 - Sign in with group name
 - CheckLocation
 - Read Clue
 - Leave Clue

Code!

...There has to be an app for this ...



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In Summary

- If you have questions, please ask now
- More question? Send to hiforum@microsoft.com
- The free Hawaii Tech Preview will be available in Spring 2012. We will keep you informed!
- Sign up to be the first to know about release of Hawaii Tech Preview towards the end of this webinar

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