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mobile media fun!

The Team

Anita Wilhelm – Founder

- MIMS UC Berkeley, May 2004 - Graduate Researcher of camera phone based research (Prof. Marc Davis), BS University of Michigan
- Yahoo! Mobile, Electronic Arts
- Specialty: Mobile Interaction Design and Usability

Jeff Towle – Founder

- MIMS UC Berkeley, May 2004 - Graduate Researcher of camera phone based research (Prof. Marc Davis), BS University of Washington
- Intel Research, Seattle, University of Washington
- Specialty: Visual Communities

Amy Francetic – Advisor

- Experienced entrepreneur (CEO, Zowie Intertainment, sold to Lego)
- 10 years experience making videogames for EA, Hasbro
- Board of Directors, GluMobile, leading wireless games publisher

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What we do

We offer a multi-player, photo sharing game designed for mobile devices
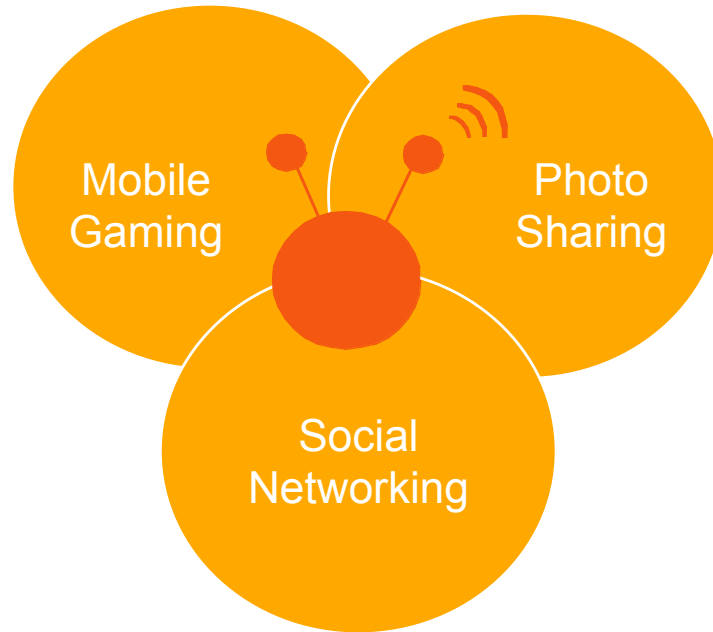
The Problem

- Camera Phones are not being used!!
  - Camera phones are prevalent, but continuous camera phone usage is low[1]
  - Image sharing is still hard and limited (only 16-20% in North America and China)[2]
- Why is this happening?
  - No way easy way to share camera phone photos (especially privately)
  - No easy way to annotate photos or to capture meaningful metadata
  - No fun incentive to use camera phones

1. *The median user takes 8 pictures their first week, but drops to 1 picture/week within a month of use (Usage Patterns for Cameraphone Drive Moblogs – Eytan Adar); The average number of pictures captured by people with camera phones is less than 20 (PMA Camera Phone Report). In Q105, on average, 22% of users took a photo with their camera phone and 12% sent or received MMS messages. (34% and 21%, respectively, for 18-34yr olds) (Enpocket)*

2. *InfoTrends*

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Our Secret Sauce

- Game play mechanics drive photo sharing
- Automated metatagging archives photos and memories
- Potentially patentable interaction for media sharing

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The Product

- A visual treasure hunt
- Flexible framework enables user generated content and viral adoption
- Downloadable premium service eases handset sharing interaction and allows enhanced game play

Features

Free Framework

- SMS challenge delivery
- MMS and desktop photo upload
- WAP and web photo browsing
- User generated challenges
- Per challenge photo sharing privacy
- Automated photo tagging
- Web-based storage and organization of photos
- Handset and web-based commenting
- Community photo rating
- Notification alerts of new photos, comments, challenges
- Advertiser sponsored challenges with prizes

Premium Service

- Downloadable handset client
- One-click photo upload interaction
- Handset to handset photo browsing
- Pre-created themed scavenger hunts
- One-to-one race conditions
- Group race conditions
- Single player modes
- Game specific leader boards

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Caterpillar In Action…

1 School: The excitement about Saturday's party begins.

2 Jessica creates a challenge called: "Party Hotties"

3 Party: Sarah spots Brian. Oh la la. "A Hottie!" Snap!

4 Jessica receives the Picture. She agrees. "Cute!"

5 Jodi smiles and comments: "Heard single, u should tlk 2 him!"

6 School on Monday: Brian asks Sarah if she's going to the football game tonight.

Player Personas

- **Everyday user**
  Goal: Play with friends,
  take up down time

  Target: Everyday User

- **Game Enthusiast**
  Goal: Win the game

  Game Enthusiast

- **Social Butterfly**
  Goal: Meet people

  Social Butterfly

- **Casual/ Passive User**
  Goal: Browse other's images
  (stay in the loop)

  Casual/Passive User

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Our Target

☌ **Females, then Males, 14-25 years old**

- More than 25% of women have camera-capable cell phones (verses 21% of men) and 60% of women use their camera feature frequently or occasionally (verses 40% of men)[1]

- 72% of 18-24 year olds and 55% of 25-34 year olds used a camera phone in the last 3 months, compared with 35% of the total user base[1]

1. Enpocket

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The Time is Right for Caterpillar

⚲ ## Users are Ready:

- Handsets capable of handling multi-media applications are available and well priced
- 3G networks are being deployed
- Flat-rate data transmission fees are quickly becoming the norm[1]
- The quality of camera phones is improving dramatically
- Flash, resolution, and other image quality issues are being addressed

⚲ ## Carriers are Ready:

- Walled gardens are coming down as carriers allow users to share images across networks (ie scaling the wall)
- Interactive applications (where data goes both to and from the handset) drive much greater network use, resulting in increased ARPU
- Carriers need to begin recouping investments made in 3G networks and infrastructure

1. *Verizon offers a $5.99/mo unlimited data package. Related note: Japan's real tone revenue increased 600% in 2004 based on wide availability of 3G handsets and flat-rate transmission fees set by three major carriers (Mobile Content Forum)*

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Our Research Results

- Camera Phone Usage Interviews Revealed:
  - Community building is a large reason why people post and share pictures
  - People desired the ability to share within specified groups of people; and
  - People found archives of postings the most valuable thing about photo blogging

- Initial Game Focus Groups: When presented with the game, they loved it! [45 graduate students]
  - "I started looking for Zookes (challenges) [when walking down the street]."
  - "I enjoyed it, I found myself looking at things differently."
  - "I was trying to figure out how do I capture this in a picture?"
  - "Can I keep playing it?"

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Distribution and Revenue

- Viral, Viral, Viral!!!
  - Free SMS and web version, fuels initial adoption and ensures all handset participation
- Corporate sponsorship promotions
  - This year already: Absolut, Conquest, Snickers, PS2, Pontiac, Budget
- Mobile and web advertising
- $2.99/ mo premium download available via carrier decks
  - Subscription based gaming has 5X greater revenue than downloadable games[1]

1. *Juniper Research*

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# Competitive Landscape

- **Photos:**
  - Ofoto: Mobile photo publishing, web-based storage, printing
  - Snapfish: Mobile photo viewing, web-based storage, printing
  - Flickr: Web-based photo tagging, storage
  - Photostofriends: Private mobile photo sharing

- **Communities:**
  - Dodgeball: Mobile social networking
  - Text-America: Moblogging

- **Gaming:**
  - Go Game: Mobile phone scavenger hunt
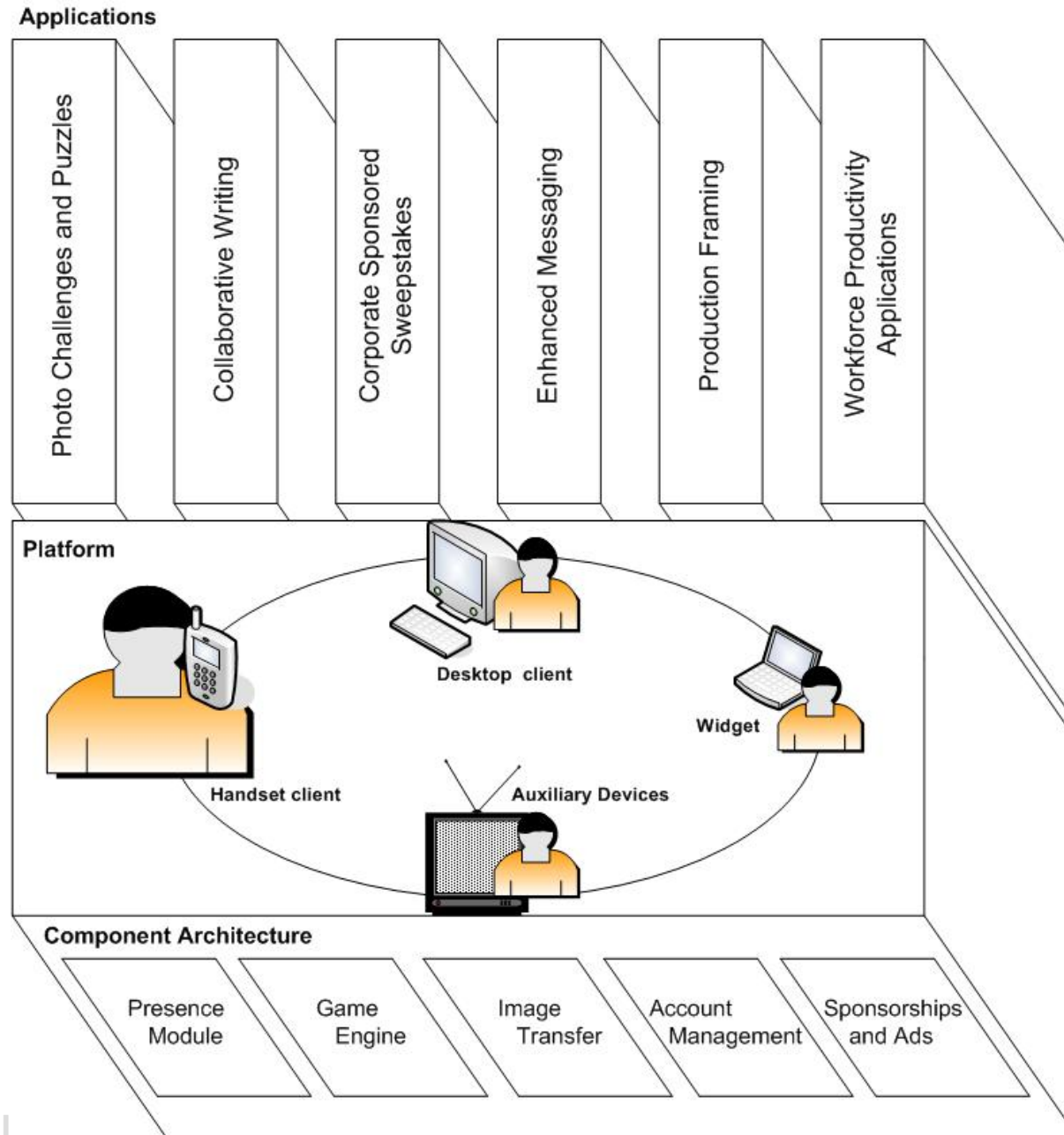 - Geo Caching: GPS hunts

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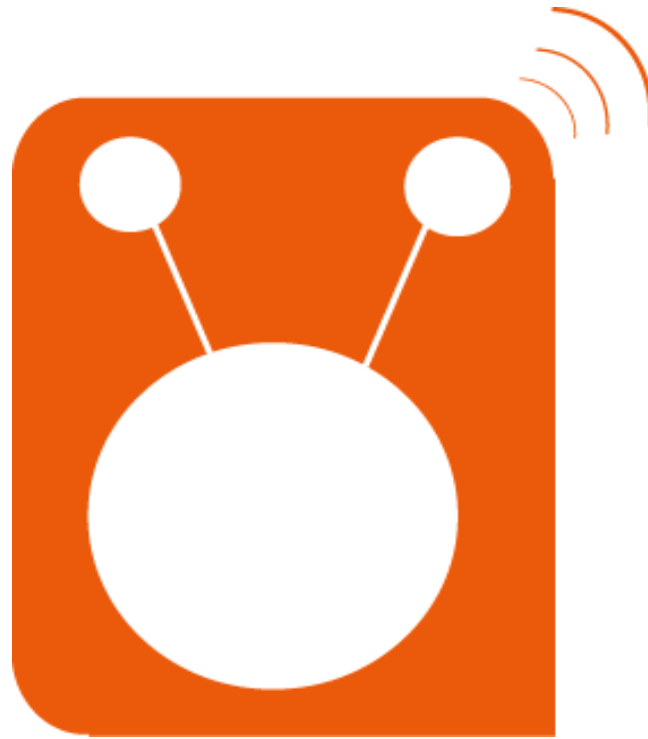
caterpillarmobile.com

Anita Wilhelm
anita@caterpillarmobile.com

Amy Francetic
amy@caterpillarmobile.com

Publications

- Anita Wilhelm, Yuri Takhteyev, Risto Sarvas, Nancy VanHouse, and Marc Davis. **Photo Annotation on a Camera Phone.** *Proc. CHI2004.* Vienna, Austria. April 24-29, 2004.

- Risto Sarvas, Erick Herrarte, Anita Wilhelm, and Marc Davis. **Metadata Creation System for Mobile Images.** *Proc. MobiSys 2004.* Boston, Mass. June 6-9, 2004.
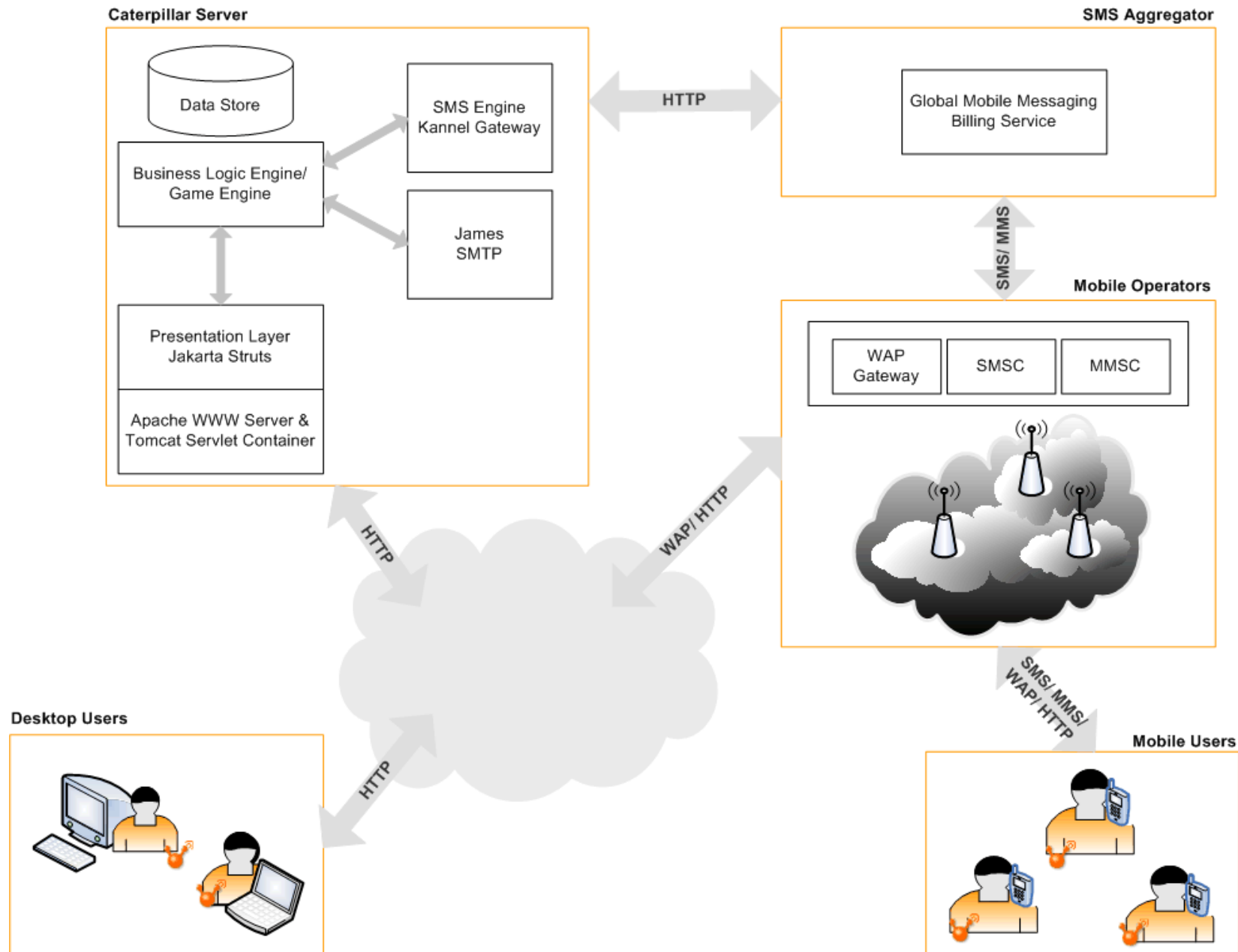
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Caterpillar Solution

System Architecture

Caterpillar Server

Data Store

Business Logic Engine/ Game Engine

SMS Engine Kannel Gateway

James SMTP

Presentation Layer Jakarta Struts

Apache WWW Server & Tomcat Servlet Container

SMS Aggregator

Global Mobile Messaging Billing Service

HTTP

SMS/ MMS

Mobile Operators

WAP Gateway

SMSC

MMSC

WAP/ HTTP

HTTP

Desktop Users

HTTP

SMS/ MMS/ WAP/ HTTP

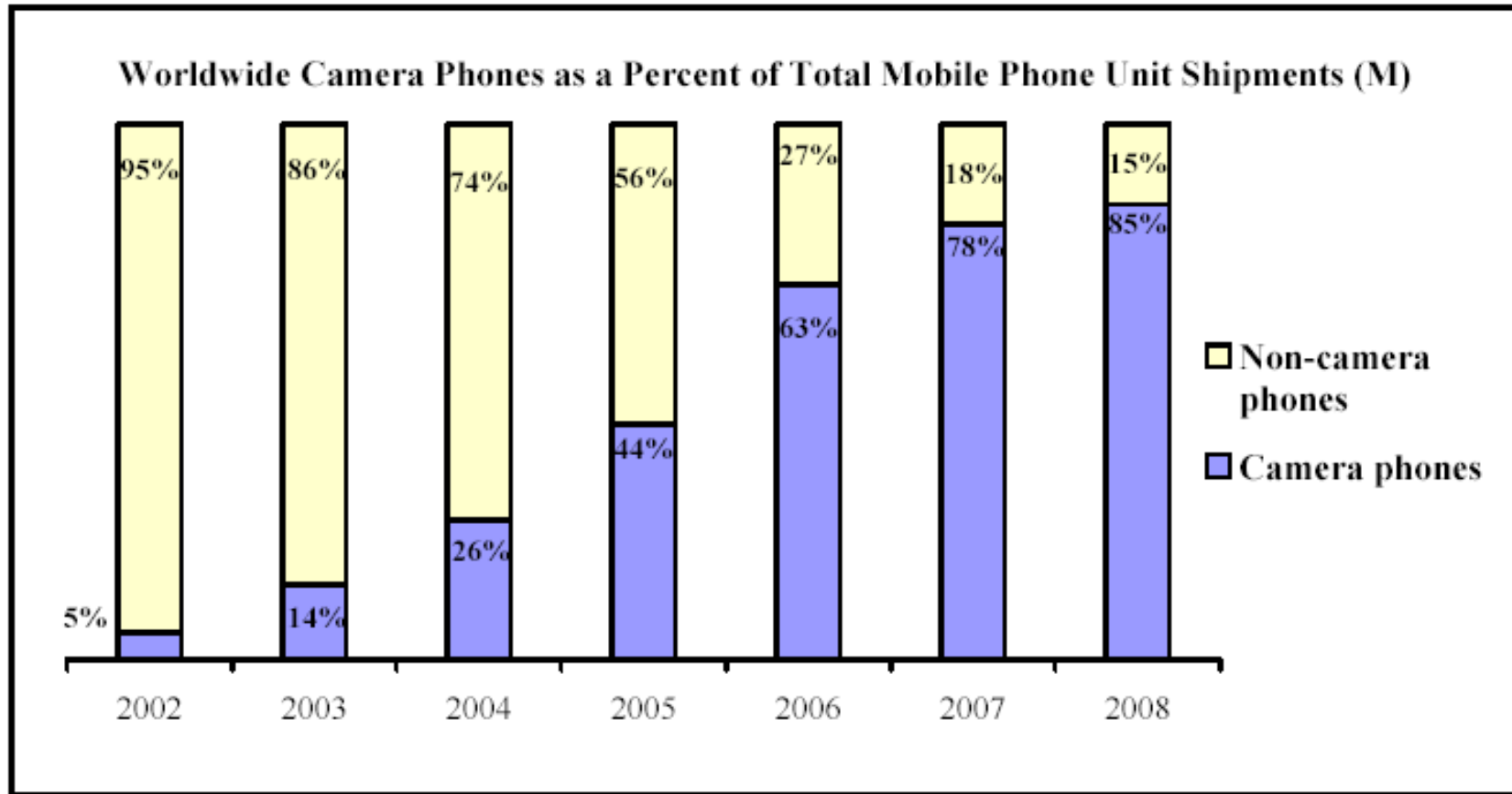**Mobile Users**

Current Market Opportunity

Figure 4 – Worldwide Camera Phones As a Percent of Total Mobile Phone Unit Shipments 2002-2008 (M)
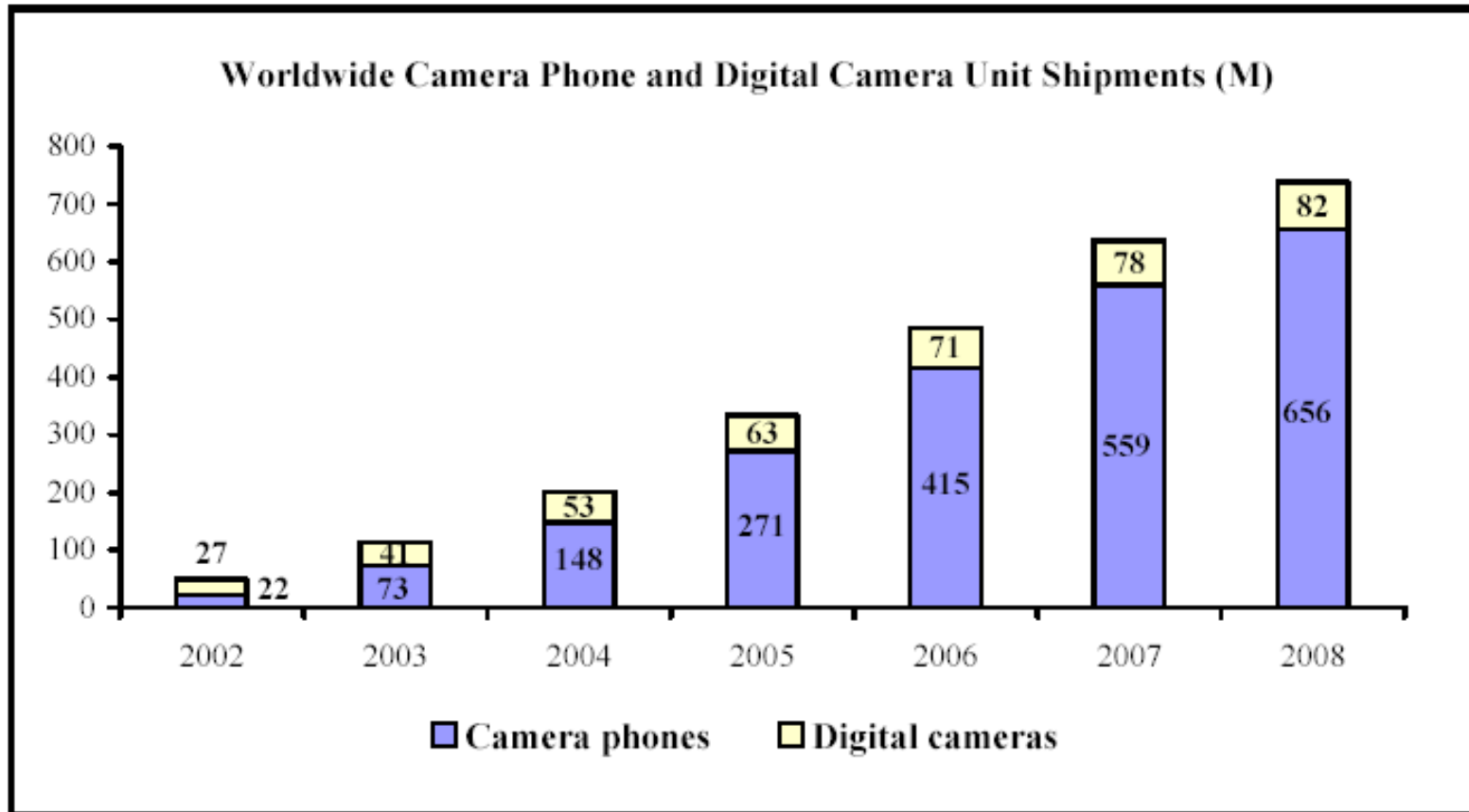
Current Market Opportunity

Figure 7 – Worldwide Camera Phone and Digital Camera Unit Shipments (M)

Source of Digital Camera Shipments: 2003 Worldwide Consumer Digital Camera Forecast

Camera Phone Game
Focus Group

- **People liked it!**
  - Prior to playing the participants were skeptical, but now many wanted to keep playing!
- **Places people played:**
  - Walking to school
  - Waiting for/ riding the bus
  - Walking down the street
  - Waiting for people
  - Eating in a restaurant alone
  - At the airport
  - Driving
  - At home

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Camera Phone Game Focus Groups

- **Different types of challenges = different personas**
  - Easy – "I wanted to mark it off my list"
  - Hard – "I liked the ambitious ones that allowed you to be more creative"
  - "I got a lot of outdoor ones, so I took a hike"
  - "The personally relevant ones were the best"
- **Types of activities people enjoyed?**
  - Some like to verify the best
  - Some liked to complete challenges the best
  - Some liked the web browser the best
  - Some wanted to "get more" done than others and questioned about score
  - Some just interested in vague interpretations of the photo challenges

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Camera Phone Game Focus Groups

- Altered their perception of the world
  - "I started looking for Zookes (challenges) [when walking down the street]."
  - "I enjoyed it, I found myself looking at things differently."
  - "I was trying to figure out how do I capture this in a picture?"
  - "[I was trying to] find 'subliminal messages' in a shopping area in San Francisco."

- Caused them to think about social interactions differently
  - "I had an 'ugly jacket' Zooke (challenge). I saw a woman wearing a red jacket, but I couldn't get her because the resolution was too bad. So then I didn't know if she would notice me, if I approached her… and then I started to wonder if I should ask her if I could take a picture… then I felt bad because I was fulfilling 'ugly jacket'… no, I didn't take it."

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Camera Phone Interviews: Device Specific Behavior

- Phone is for fun
  - People generally use these cameras for fun adhoc pictures, not precious memories

- Power of now
  - Content of the photo tends to convey what they are seeing or doing now.

- Desktop component has an advantage
  - Those who did not post images to a blog or desktop site did not share as much as those who did (some have no way of getting the images off the phone)
  - Web component to browse images is a large incentive

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Camera Phone Interviews: Device Specific Behavior

- Sharing is a group behavior
  - Talked of sharing pictures with groups of friends
  - Community building is a large reason why people post and share pictures.
  - Desire ability to share immediately within a certain group of people
- Retrospective: Moblogging diary is invaluable
  - In retrospect, people found the most valuable thing to be their archive of postings

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Current Solutions Annotation Approach
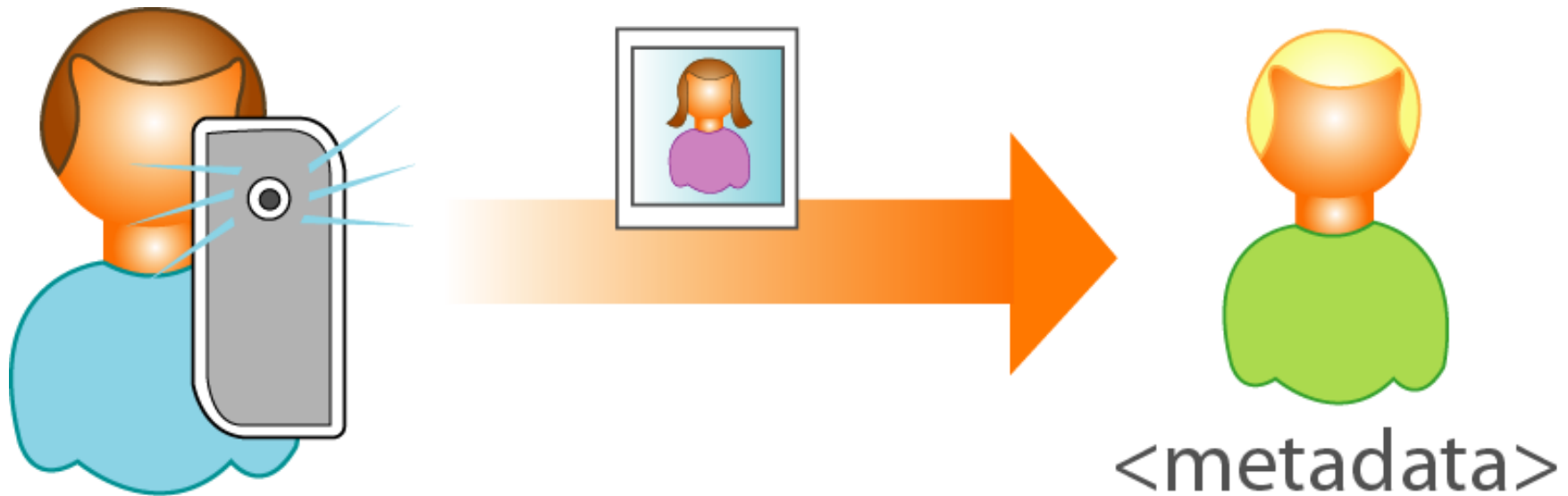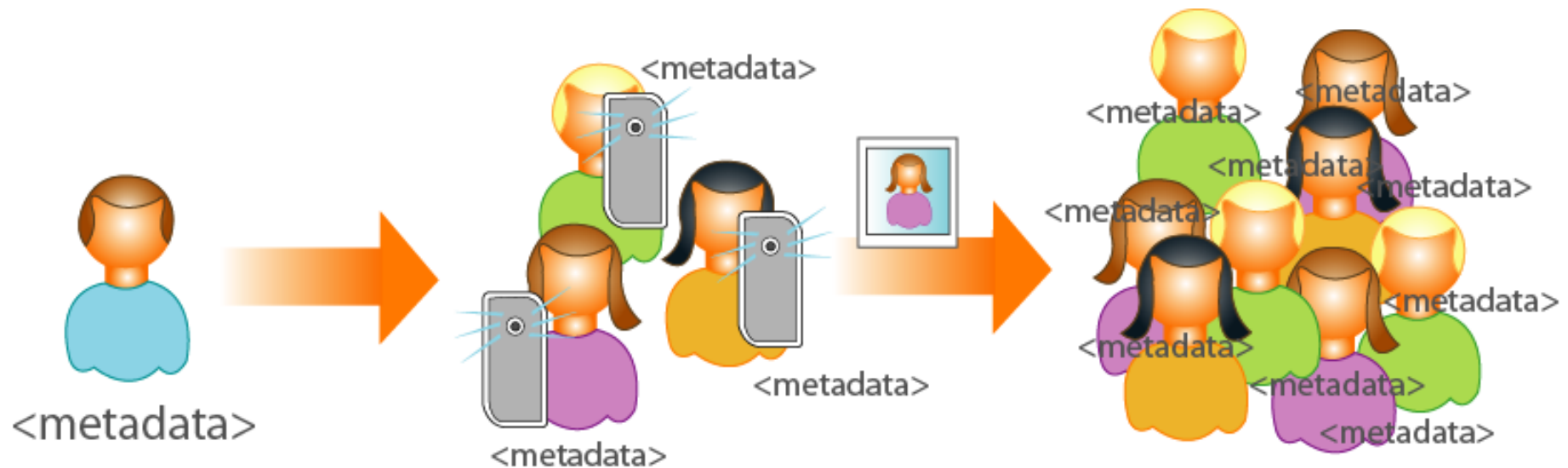

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Our Annotation Approach

1. Allow annotation at various steps of the process
2. Distribute work load among community
3. Give incentive through game play

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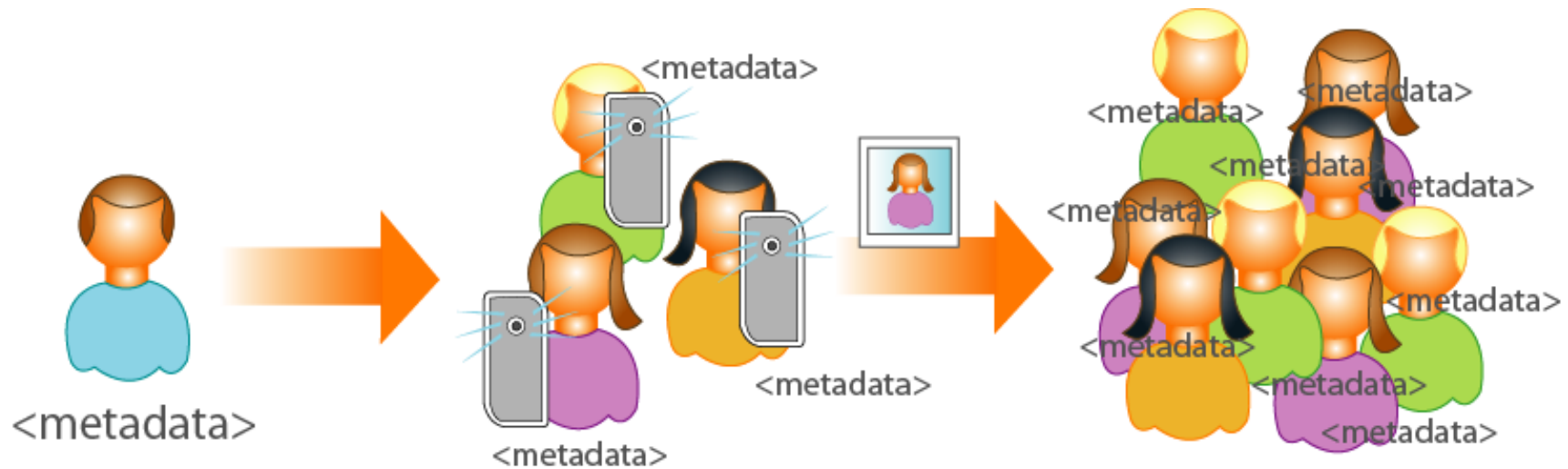<metadata>

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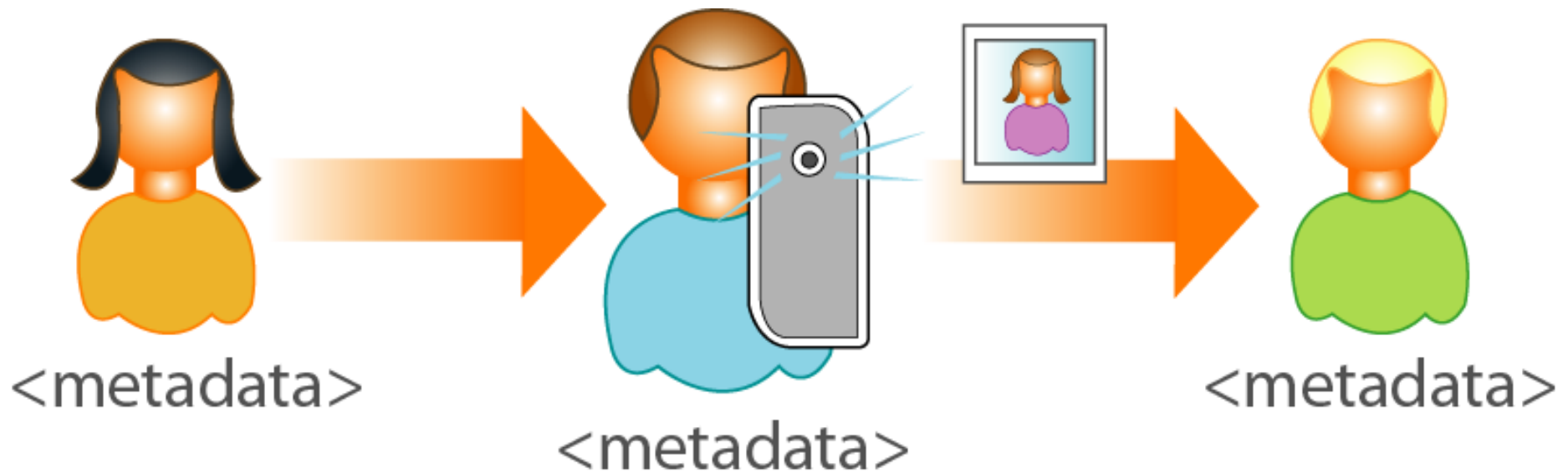
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Create a Photo Challenge

Completion: Take a Photo

Verification and Distribution: Ratings and Comments