



Content and Context for mobile AR

Tobias Eble - ISMAR 2010



The growth of Augmented Reality is driven by

**Enduser-
realized the
Great Technology
Great Content**

**Research
community**

artists

media

developers



Enduser-Value & Technology



Benefit of mobile AR for the user

1. Easy information access
2. Understanding information
3. Wow-Effect



1. Easy Information Access

Technical Needs

- Support of mobile devices
- Strong information backend
- Context based filtering
 - Location, Orientation, Weather, Personal preferences, ...



junaio kino.de channel

2. Understanding Information

Technical Needs

- Highly accurate overlays
- Sensor based tracking too inaccurate
 - ➔ Computer vision is crucial
- 3D reconstruction
- Advanced 3D animations
- Support of multiple media formats



6DOF outdoor tracking



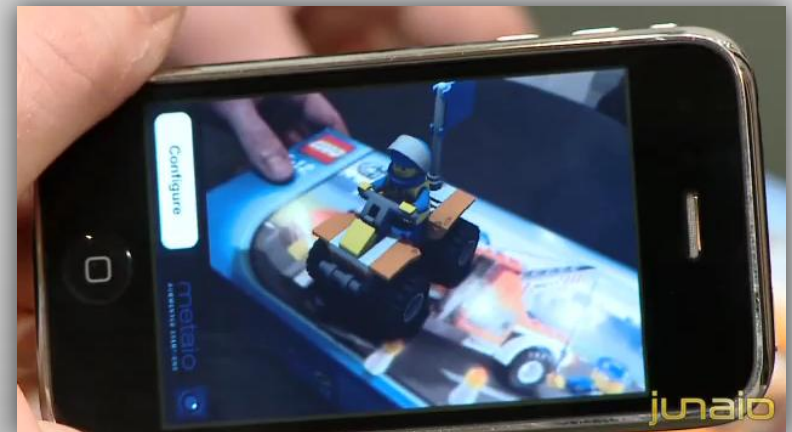
3. Wow-Factor

Technical Needs

- Highly accurate overlays
- Face tracking
- Advanced 3D animations
- Dynamic reconstruction of the lighting situation



LEGO Digital Box



Mobile POC



3. Wow-Factor



Face tracking on a mobile phone



Virtual truck rendered with
reconstructed light environment

Great Content



Some available information (status 1/2009)

1,000,000,000,000 unique URLs in Google's index

10,000,000 articles in Wikipedia (all languages)

70,000,000 number of total videos on YouTube (3/2008)

900,000 average number of blog posts per day

3,000,000 number of Tweets per day (March 2008)

700,000,000 number of photos added to Facebook monthly

Source: <http://thefuturebuzz.com/2009/01/12/social-media-web-20-internet-numbers-stats/>



Attention Economy



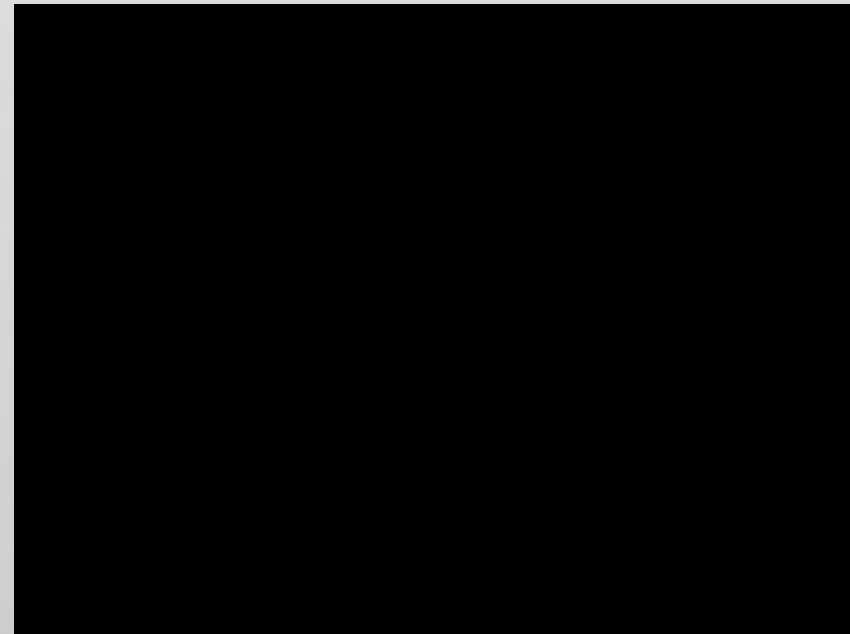
Attention Economy gone wrong



A new medium needs to grow a content ecosystem

Early content in film

- Workers Leaving the Lumiere Factory in Lyon, 46 sec
- Other Examples
 - Fishing for Goldfish, 42 seconds
 - Horse Trick Riders, 46 seconds
 - Blacksmiths, 49 seconds



“Workers Leaving the Lumiere Factory in Lyon” (1895)



AR content



2008: Mini advertisement campaign



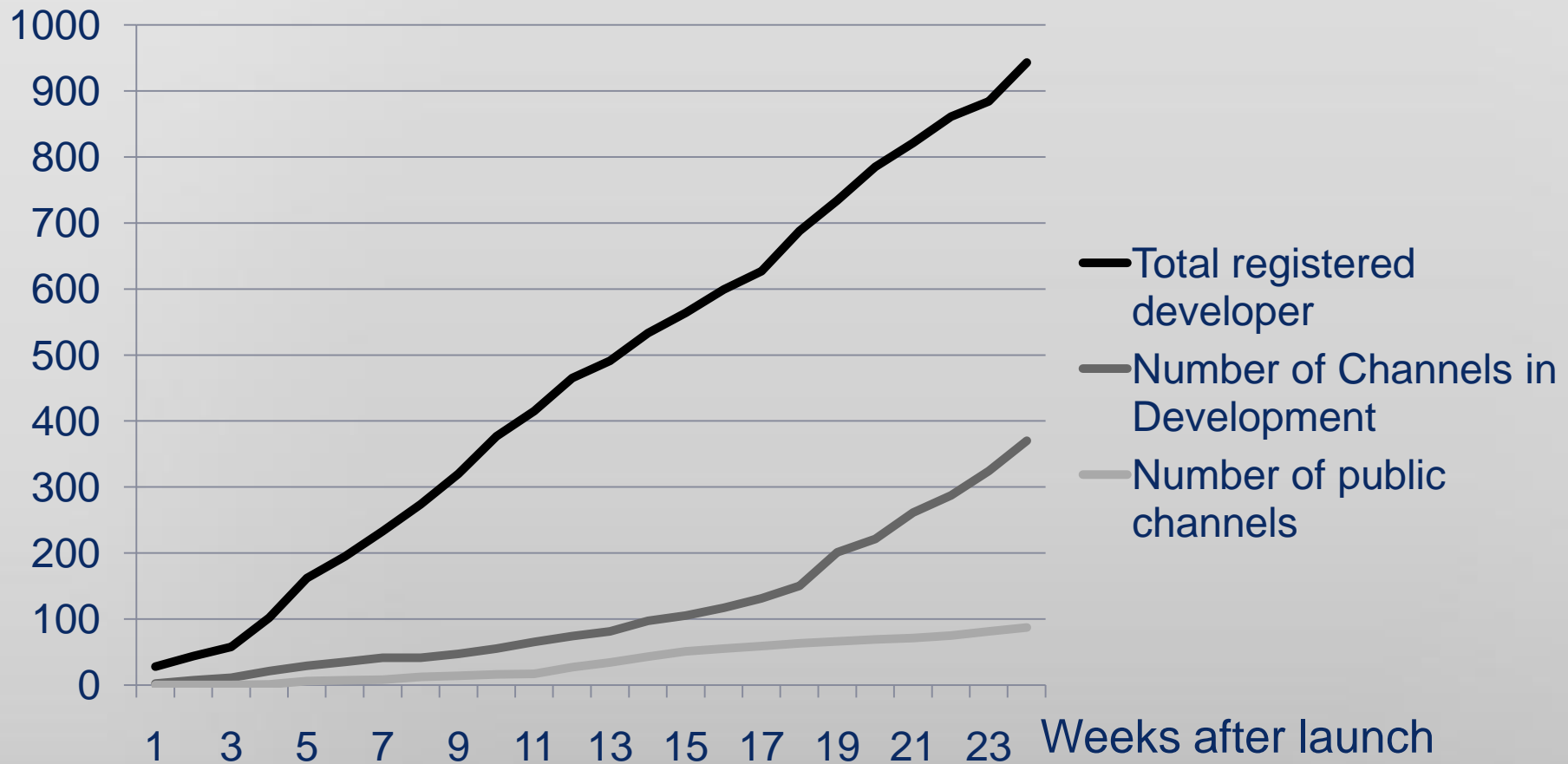
2010: junaio featuring SZ Magazine

Reaching more People





Junaio is free and offers full AR capabilities!



We are working to lower the tech-barriers

Add Glue Component

Title


junaio GLUE Demo

Description

A 3D animation will be displayed after an image was recognized by the smartphone's camera.


Tracking Image

✖ Delete image




Action: Show 3D Model on Image Recognition

✖ Delete 3D model



✖ Delete texture



Rotation

X

Y

Z

Scale

Idle-Animation


idle

OnClick-Animation

shock_up

Cancel

Save





Conclusions

Great mobile AR applications

- Content that makes sense
- Context: “Content is king, context is queen”.
- Needs robust and accurate technology to realize the concepts
- Have the tools for everyone creating an AR experience



Face tracking on a mobile phone



Thank you for your attention

Questions?

