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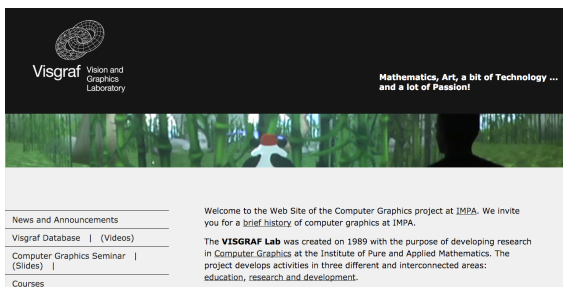
Trends in Mobile Computing

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Outline

- VISGRAF Introduction
- Meta-Media
- Mobile Applications
- Two Case Studies

The VISGRAF Lab



www.visgraf.impa.br

New Media <Meta-Media>

A Revolution in Process

- Informatics + Telecommunications
- Digital Content
- Interactive Interfaces
- Big Data
- Internet Services
- Virtual Communities

Trends in Hardware

- Processing
 - Parallelism
- Memory
 - Unlimited
- Network
 - Pervasive
- Data (I/O)
 - High Fidelity

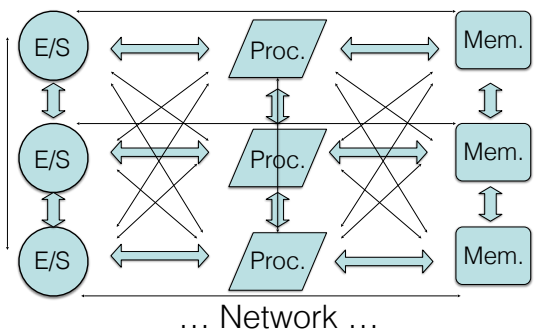
Software Perspectives

- Interoperability
 - Standards
- Distributed Computing
 - Agents
- Smart Interfaces
 - Avatars
- Augmented Reality
 - Immersion

Product Directions

- Ubiquity
 - Various Kinds
- Portability
 - Miniaturization
- Connectivity
 - Multimodal
- Design
 - Form and Function

Meta-Media



Challenges

- Integration
 - Technologies / Data / Areas
- New Paradigms
 - Computation / Languages / Interface
- Application Context
 - Personal Satisfaction
 - Social and Cultural Insertion
 - Business Models

Mobile Applications

What's Different Now?

- Desktop
- Web
- Mobile



A New Platform

- Portable
 - Phone / Tablet / Watch / ...
- Networked
 - Cellular / Wifi / Bluetooth
- Sensors
 - GPS / Accelerometer / Compass
- Media
 - Cameras / Audio / Display

Expo Framework

Architecture

- Micro-Location
 - iBeacons
- Content
 - WiFi (Streaming)
- Authoring
 - State Machine

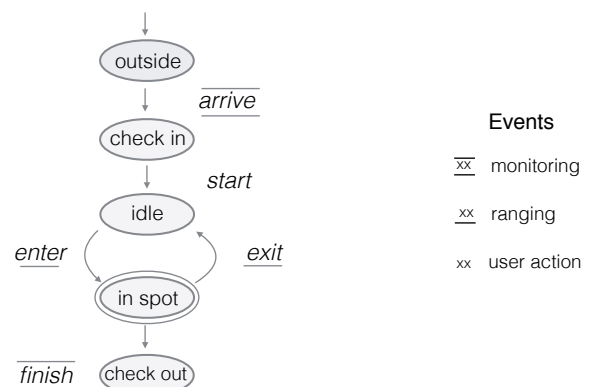
iBeacons

- Region Monitoring
 - Notifications (enter and exit Exhibit)
- Beacon Ranging
 - Proximity (Expo Areas)

Expo Flow

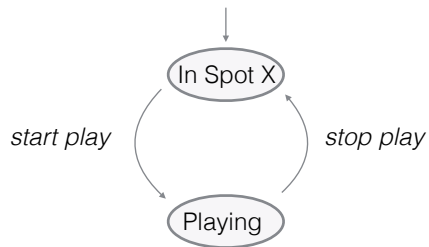
- Approach : *Welcome*
- Entrance : *Book Signing*
- Idle : *Browse, etc*
- Areas : *Content-Dependent Interaction*
- Exit : *Send Info*

Exhibit State Machine

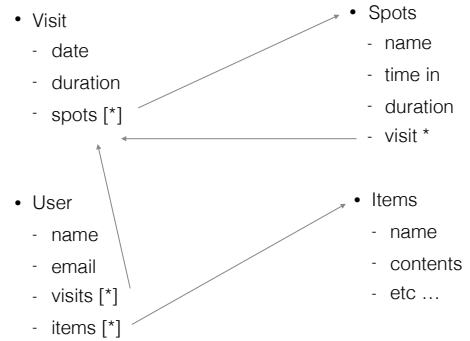


Area State Machine

(example - play content)



Expo Data Model

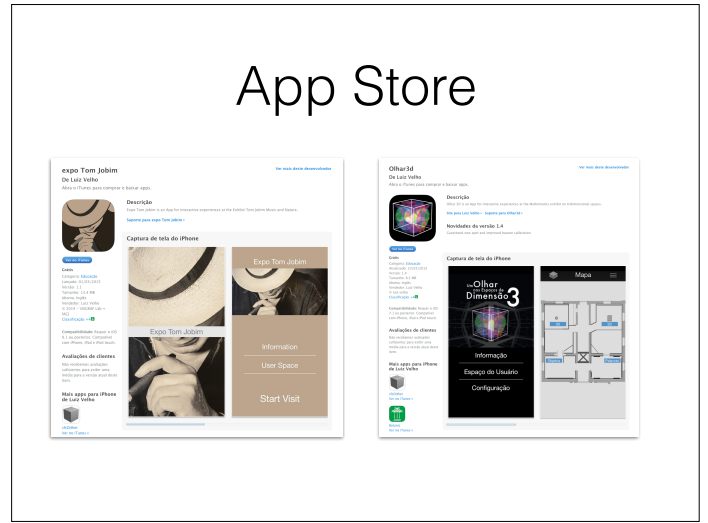
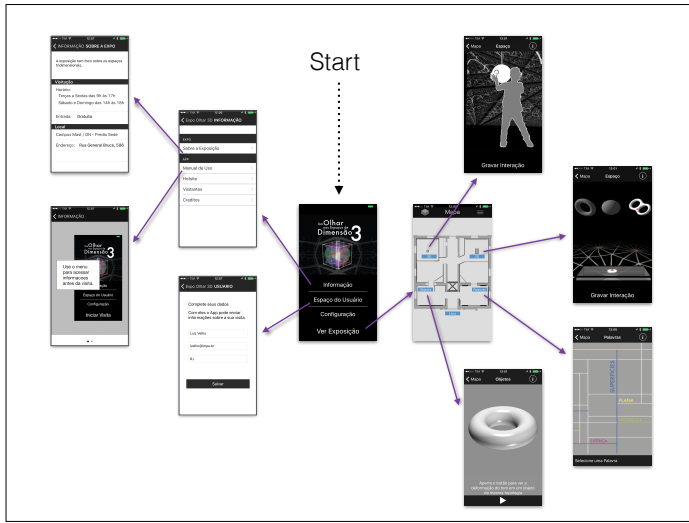


Case Studies

Two Exhibits

- Tom Jobim: Music & Nature
 - Jardim Botânico, RJ
- Olhar 3D
 - MAST - Museu de Astronomia





Thank you!