

Augmented Reality for Technical Documentation

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Objectives

- Augmented Reality and Documentation – Current Scenario
- Augmented Reality for Mobile devices – Requirements
- Methods to deploy AR content via Mobile devices
- Marker or Marker-less?
- A demonstration (Android) and a Mockup

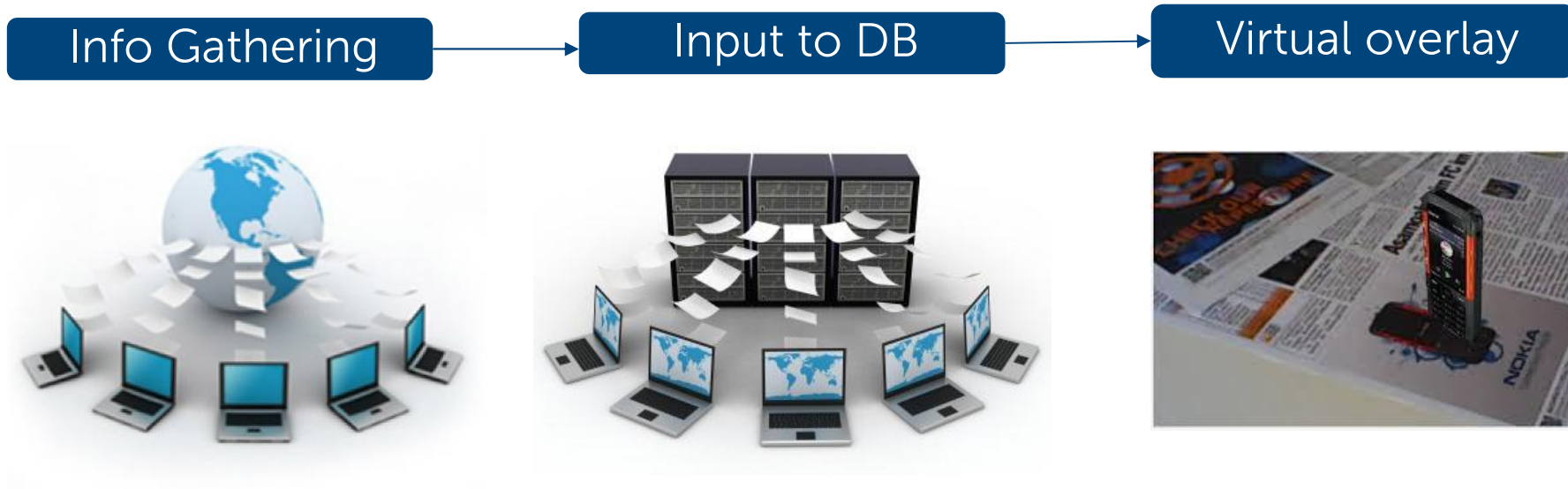


Augmented Reality – A primer

- AR generates a composite view which combines the physical and the virtual world.
- Additional information can be layered over or around the physical object.
- A rich user-experience that delivers contextual information through 3D models, Videos, and information overlays.
- Companies like Ikea, Nintendo, Aston Martin and many others have embraced AR to create fluid user experiences for documentation delivery.

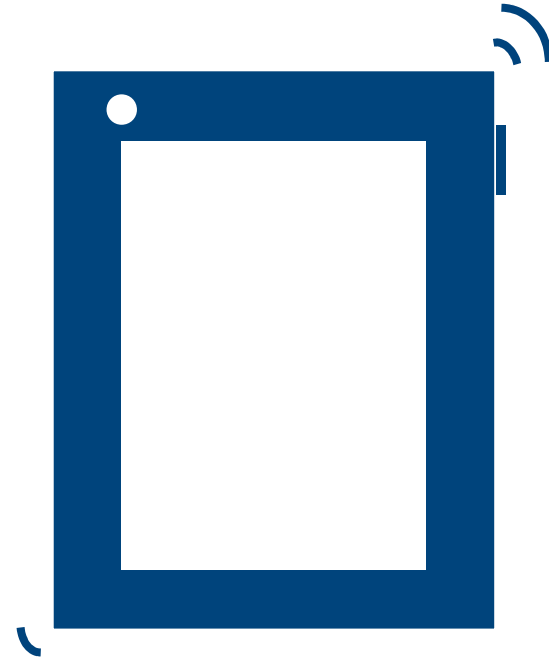


Augmented Reality – How does it work?



Common features that can be leveraged

- Touchscreen
- Motion sensors
- Camera
- GPS
- Sound
- HD Display
- 3D/Graphics



Augmented Reality for Mobile devices – Requirements

- A 3D Model (.dae or blender objects) or a Video
- An Augmented Reality SDK – Vuforia/Metaio/Augment
- Mobile device/tablet
- Use tags to deliver specific information like videos, procedural information and specifications
- A robust but intuitive app interface to support devices of various sizes and specifications



Deployment Methods –Marker or Markerless?

- Marker Based:

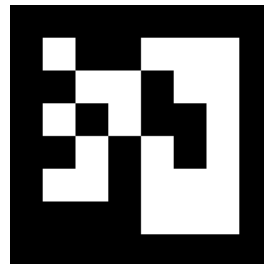
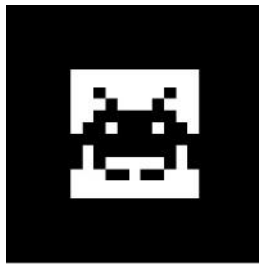


- You can use your own image as trackers/markers
- Once scanned, see your 3D model pop up on top of it or be redirected to your weblink
- A single image is usually associated to a single model, a gallery of models, or a weblink



What makes a good Marker/Tracker?

- An image needs two properties to be effective:



- Complexity
- High Contrast



Limitations of Marker-based AR

- The marker would need to remain in view the entire time on order to maintain the AR
- The Marker would partially obscure a portion of the real-world object



Markerless AR

- Does not require a traditional AR marker
- Object tracking uses real world object as a marker
- Works even when the camera can see only a portion of the object



Marker or Markerless?

A few instances in Technical documentation delivery when you would choose one over the other

Marker	Markerless
Specifications	Disassembly guide
Video link	Install guide
Weblinks	Port/node identification
Web galleries	Training Modules
Training Modules	



Tips for a great AR experience – UX/UI!

- Progressive Disclosure
- Abstract (Symbolic or Figurative, e.g- Arrows) or Concrete (3D models)
- Avoid fragmentation of audience via multiple apps
- Shifting layout to fit resolution
- Increased gesture interactivity.
 - Swipe to perform actions
 - Pinch for zoom
 - Press and hold to activate context sensitive menus
- Populate content via XML



Demonstration

