Avatars and Motion Capture for Virtual Fit Fashion

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Body Scanning

- Infrared depth sensing
- Takes less than 10 seconds
- Produces point cloud data
- List of body measurements
- Used for
  - Body shape analysis
  - Clothing size standards
  - Product development
  - Made-to-measure clothing
- Scaled pre-made avatars
Accuracy of Representation
Topology for Animation

- Anatomy of 3D polygonal models
  - Vertices
  - Edges
  - Faces
- Define the deformation when animating
- Reconstruction of point cloud data is noisy and unusable
- Retopology tools available
- Use scan data as ‘live object’
- Enables control over topology whilst being true to surface capture
Body Texturing
Cloth Simulation
Rendered Output
Motion Capture

• Many different forms
  – Inertial
  – Optical
  – Markerless
• Real-time visualisation
• Store for later application
• Personalised animation
  – Combine with avatar
  – Apply cloth simulation
  – Virtual-fit
• Animated fashion shows
  – Global audience
• VR experience
Virtual Fit Technology

• Successes.
• Limitations.
• Possibilities.
• Future.
...a catwalk of your 3D self...
Boundless thinking inspired by the digital revolution.

Limited by technology then, limited by technology now.
What about new tech?

• Previously driven to improve service, reduce returns, provide wow-factor.

• Half-way-house between online and in-store.

• What if we look to a different industry to provide the technology for the future of virtual-fit?
What if?
What if?
Not if, or how, but when...

- Some complications – cloth simulation, uncanny valley.
- Huge advantages – closer replication of the shopping experience.
- Advantages for individuals who may struggle with disabilities or mental health.
- Businesses and designers can get straight to the consumer with ease.
- Potential higher spend – micro transaction effect.