

The Tempest

VISGRAF Lab • 2017-2018

1

Live Cinema Theatrical Performance
using VR Gaming Technology

2

About

- The Project
- Team
- Schedule

3

The Project

Created by a group of researchers and performing arts professionals who want to push the boundaries of what's possible in theatre and virtual reality.

It is the first time that actors – using VR – are fully immersed in a virtual set and their live performance is shown to the public on a movie screen as a real-time computer graphics under the director's interactive control.

4

Team

Cast

Prospera – [Helena Varvaki](#)
Miranda – [Daniela Sales Abreu](#)
Ariel – [Rick Yates](#)

Screenplay and Production Design

Direction – [Manoel Prazeres](#)
Virtual Cinematography and Light Design – [Affonso Beato](#) (ASC, ABC)
Masks and Costumes – [Eduardo Cronemberger](#)

Research

Project Coordination – [Luiz Velho](#) (Visgraf | IMPA)
Technical Direction – [Leo Carvalho](#) (Visgraf | IMPA)
System Development – [Djalma Lucio](#) (Visgraf | IMPA)
Webdesign and Titles – [Julia Garmella](#) (Visgraf | IMPA)
Sound Design – [Vitor Rolin](#) (Visgraf | IMPA)

5



6



7

The Play

- The Tempest
- First Folio
- In Film
- Tech Productions
- Narrative Arcs
- Excerpt

8

The Tempest

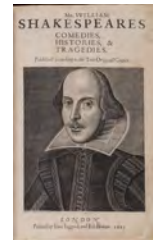
The Tempest is a play by William Shakespeare, believed to have been written in 1610–11, and thought to be the last play that Shakespeare wrote alone.

Critics see The Tempest as explicitly concerned with its own nature as a play, frequently drawing links between Prospero's "art" and theatrical illusion.

- [wikipedia](#)

9

First Folio



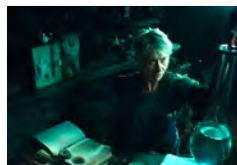
- [wikipedia](#)

10

In Film

- Julie Taymor, 2010 ([link](#))

featuring Helen Mirren
in the role of Prospera

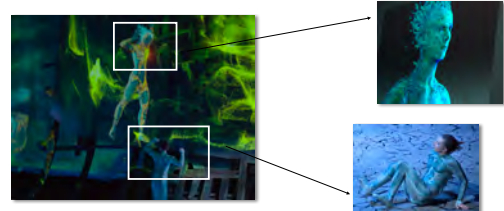


- Percy Stow, 1908 ([link](#))
- Clarendon Company / first movie

11

Tech Productions

- Royal Shakespeare Company / Intel (2017)
Part of commemoration of the 400th anniversary of Shakespeare's death
- Performance capture to render Ariel — a digital character live on stage



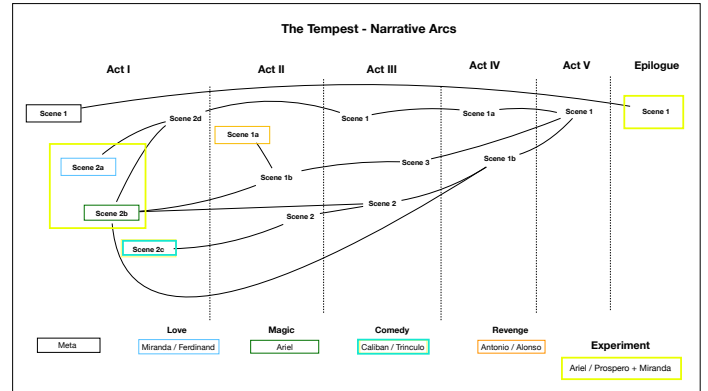
- [link](#)

12

Narrative Arcs

- Love
 - Miranda / Ferdinand
- Revenge
 - Prospero / Antonio / Alonso
- Comedy
 - Trinculo / Stephano / Caliban
- Magic
 - Prospero / Ariel

13



14

Excerpt - Scene Selection

Theme "*Magic*"

- Act I, Scene II
 - Prospero and Miranda (Tem I.ii.1 / Tem I.ii.186)
 - Prospero and Ariel (Tem I.ii.187 / Tem I.ii.304)
- Act V, Scene I
 - Prospero (Epilogue)

*booklet (pt)

15

Production

- Sets
- Props
- Characters
- Sound

16

Sets

- Location
 - Island
- Scenes
 - Cell
 - Clearing
 - Viewpoint

17

Island



- Reference: Ustica

18

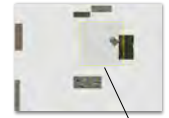
The Cell



- Main Elements: Table / Chair
- Other Elements: Books / Bookshelves / Chemical Set / Candelabrum

19

The Cell - VR Stage



Floor Plan



Limits

- Physical VR Stage | Co-located

20

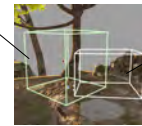
The Clearing



- Trees / Stones / Ocean

21

The Clearing - VR Stage



- Two Separate VR Stages | Shared

22

The Viewpoint



- Global / Local *

23

Props

- Table / Chair
- Staff
- Books / Candelabrum / Chemical Set

24

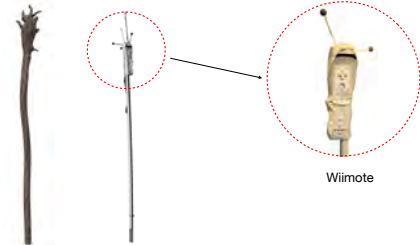
Table / Chair



- Tangible / Tracked

25

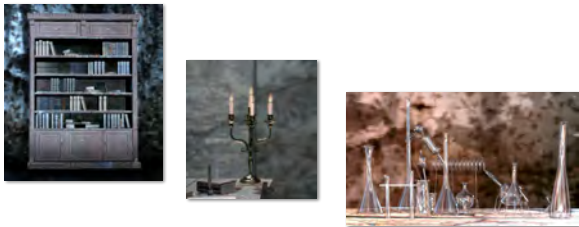
Staff



- Tangible / Tracked / Interactive

26

Books / Candelabrum / Chemical Set



- Virtual

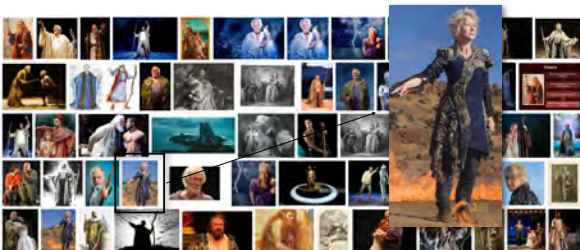
27

Characters

- Prospera
- Miranda
- Ariel

28

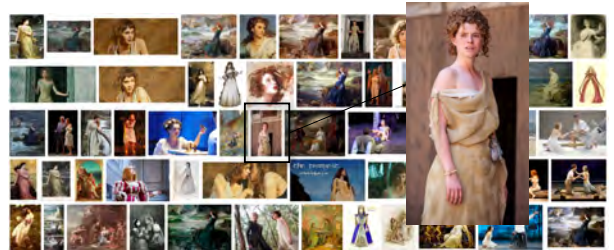
Prospera - References



- Google Images

29

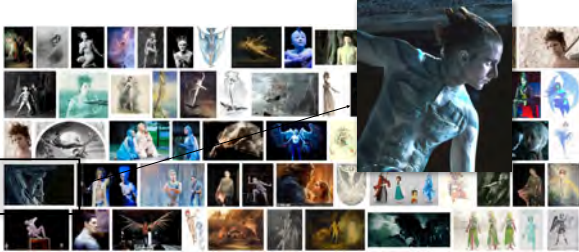
Miranda - References



- Google Images

30

Ariel - References



- Google Images

31

Sound

- Ambient Sound
 - Cell (wind)
 - Clearing (ocean waves)
 - Viewpoint (seagulls / wind + waves)
- Effects
 - Staff
 - Water Geyser
 - Fireballs
 - Day/Night
 - Explosion

32

Digital Actors

- Body
- Wardrobe
- Hood & Masks
- Eyes & Motion

33

Body

- Prospera
 - Helena Varvaki
- Miranda
 - Daniela Salles Abreu
- Ariel
 - Rick Yates

34

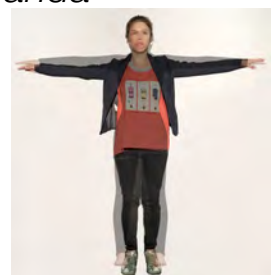
Prospera



- Model (MakeHuman) and Actress Ref.

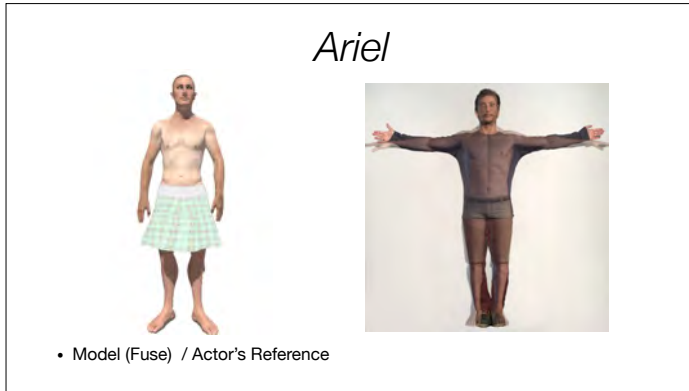
35

Miranda

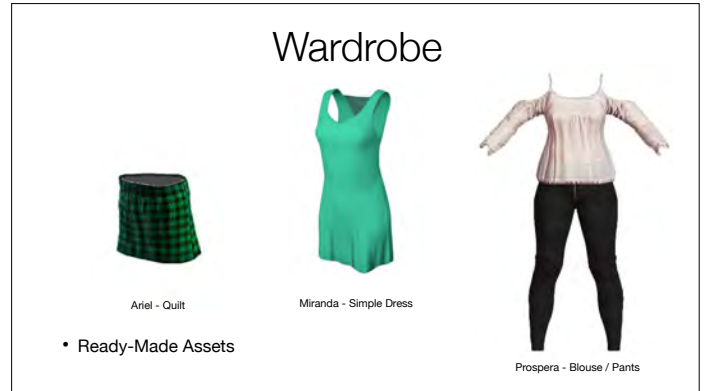


- Model (MakeHuman) and Actress Ref.

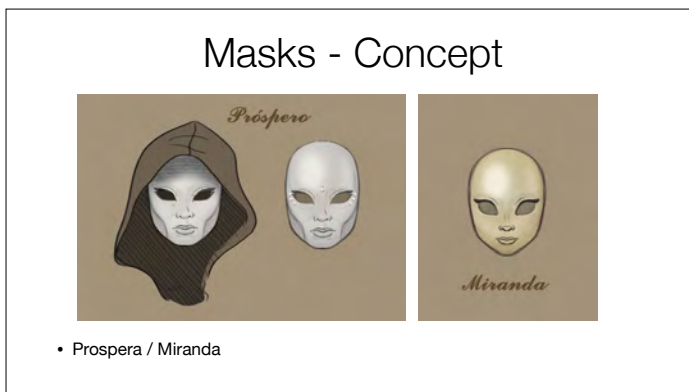
36



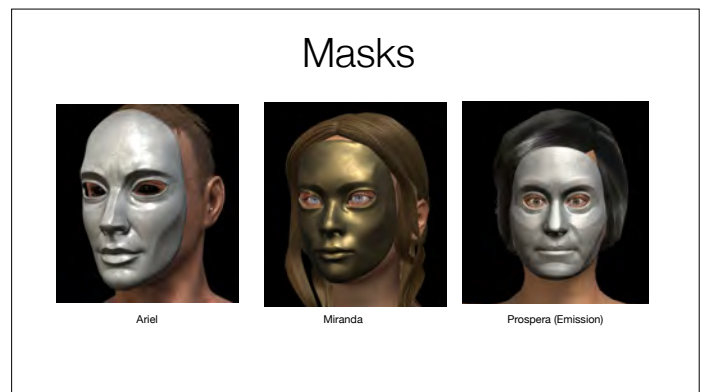
37



38



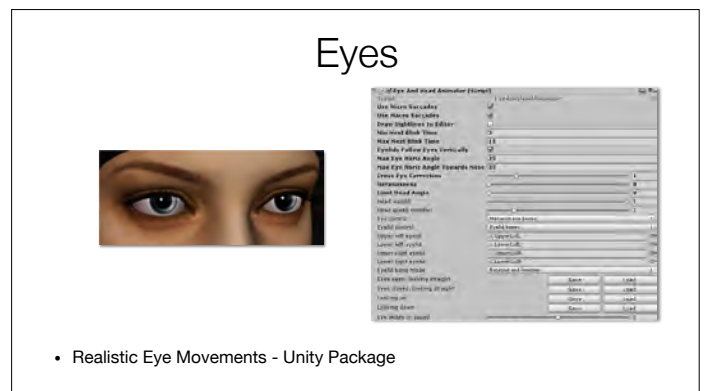
39



40

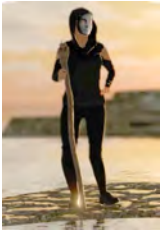


41



42

Motion



Markers

- Optitrack Motive / Final IK - Unity Package

43

Cinema

- Lighting
- Cinematography
- Effects
- Music

44

Lighting

- Cell
- Clearing
- View

45

Lighting - Cell



Particle Light



Volumetric / Fog Light

- Candelabrum / Window

46

Lighting - Clearing



Day

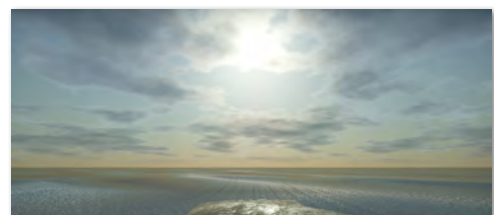


Night

- HDR Light Map (Time-of-Day) + Particle Fire

47

Viewpoint



- HDR Light Map

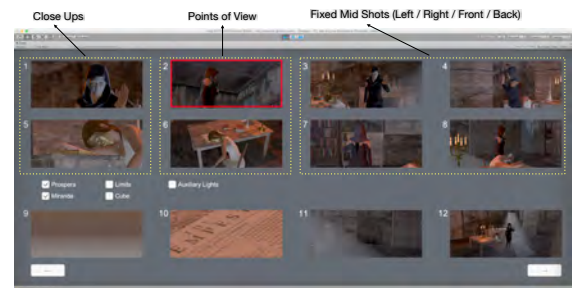
48

Cinematography

- Multi-Camera Switcher
 - Selects the active view
 - 12 pre-programmed cameras
- Director's Interface
 - Camera Groups
 - 8 multi-purpose cameras
 - sequential list of custom cameras
 - Triggers and Controls
- Built on top of Cinemachine Unity Package

49

Cameras - Cell



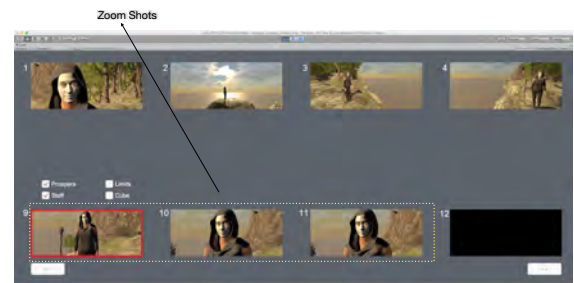
50

Cameras - Clearing



51

Cameras - Viewpoint



52

Effects

- Hood
- Water Geyser
- Water Flood
- Balls of Fire
- Day / Night
- Tree
- Explosion

53

Music

- Opening
 - Ride of the Valkyries
- Ending
 - Lullaby

54

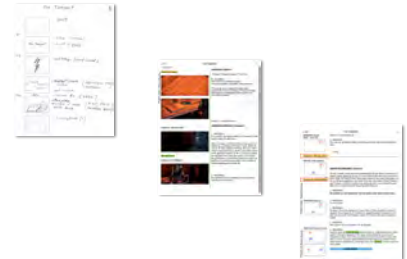
The Staging Process

- Storyboards
- Blocking
- Rehearsals

55

Storyboards

- Version 1.0
 - First Draft
- Version 7.3
 - Cameras
- Version V 9.6
 - Blocking



56

Blocking



Photos



Markers

57

Rehearsals

- During 3 Months
- 2 Days a Week — 1 or 2 Rehearsal per Day
- Full Recording for Review and Analysis
 - Video, Audio and Motion (3D)
- Schedule
 - August / September: Cell Scene (Prospera & Miranda) / Epilogue (Prospera)
 - September / October: Clearing Scene (Prospera & Ariel)
 - October / November: All Scenes (Prospera, Miranda & Ariel)

58

The Tempest
Tricks of the Trade

59

Technical Report



60

The End ?