

Introduction to Virtual Production
BA Computer Animation
ACCA4034



- AIM(S)
 - Demonstrate effective decision-making and techniques in the construction and execution of digital visual artefacts in a production context
 - Manipulate rendering technologies and studio-based methods in a live action VFX compositing context
- **LEARNING OUTCOMES**
 -
 - Upon the successful completion of this module, the student should be able to:
 - Demonstrate effective decision-making and techniques in the construction and execution of digital visual artefacts in a production context
 - Manipulate rendering technologies and studio-based methods in a live action vfx compositing context

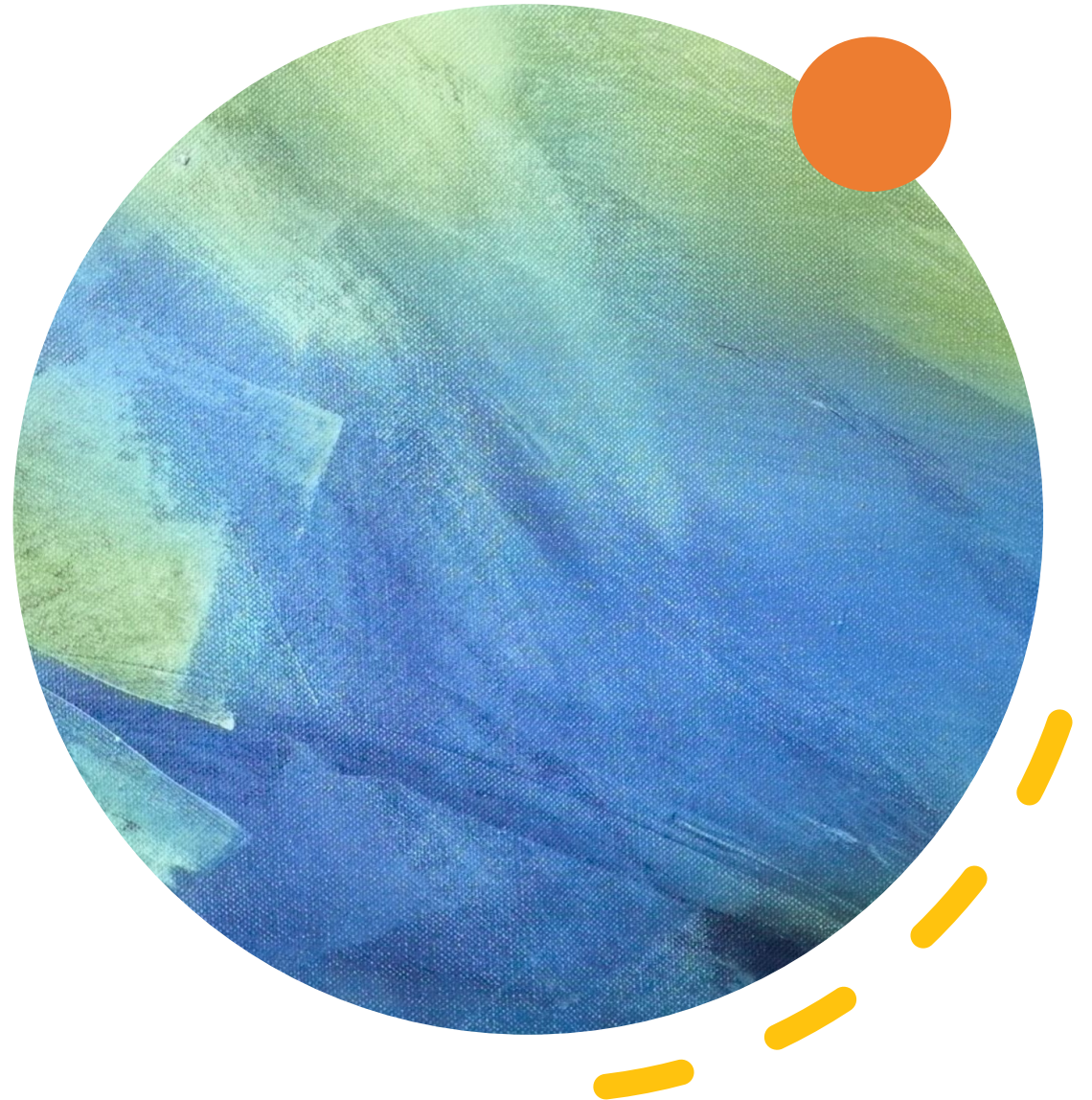




What is Compositing?



Compositing is the combining of visual elements from separate sources into single images, often to create the illusion that all those elements are parts of the same scene.



- Why is Compositing needed?
- A compositing application like “After Effects” or “Nuke” can achieve the following common processes.
- Re-package a sequence by re-sizing the image format, re-coding or compressing into digital formats depending on what type of finish is required.
- Layer different elements together by using alpha channels. Build up elements from different passes supplied from the 3D render process.



Why is Compositing needed?

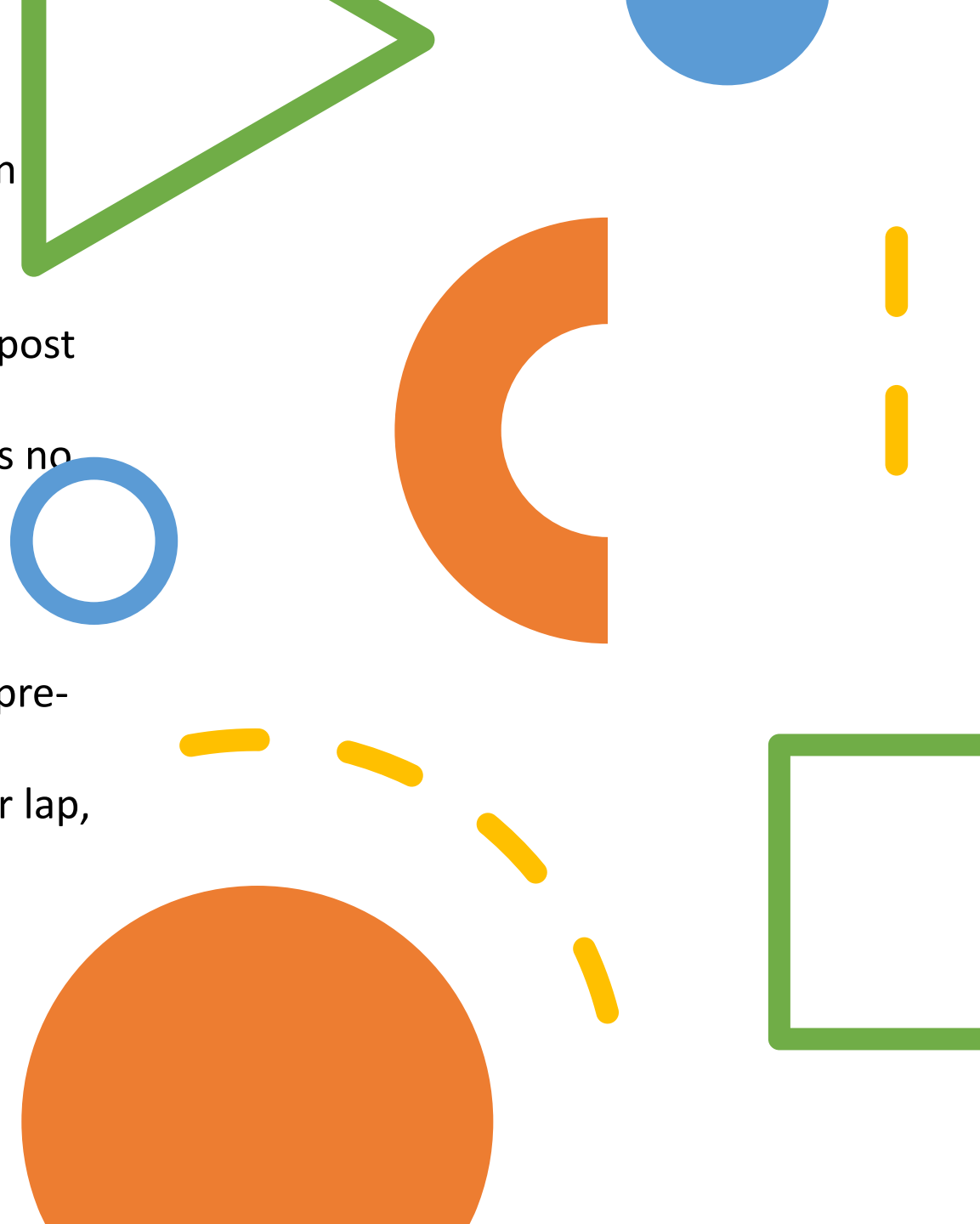
- Incorporate additional 2D graphics including typography and images and as part of the layering process.
- Incorporate additional 2D and 3D effects as part of the layering process.

Introduce additional motion to elements.

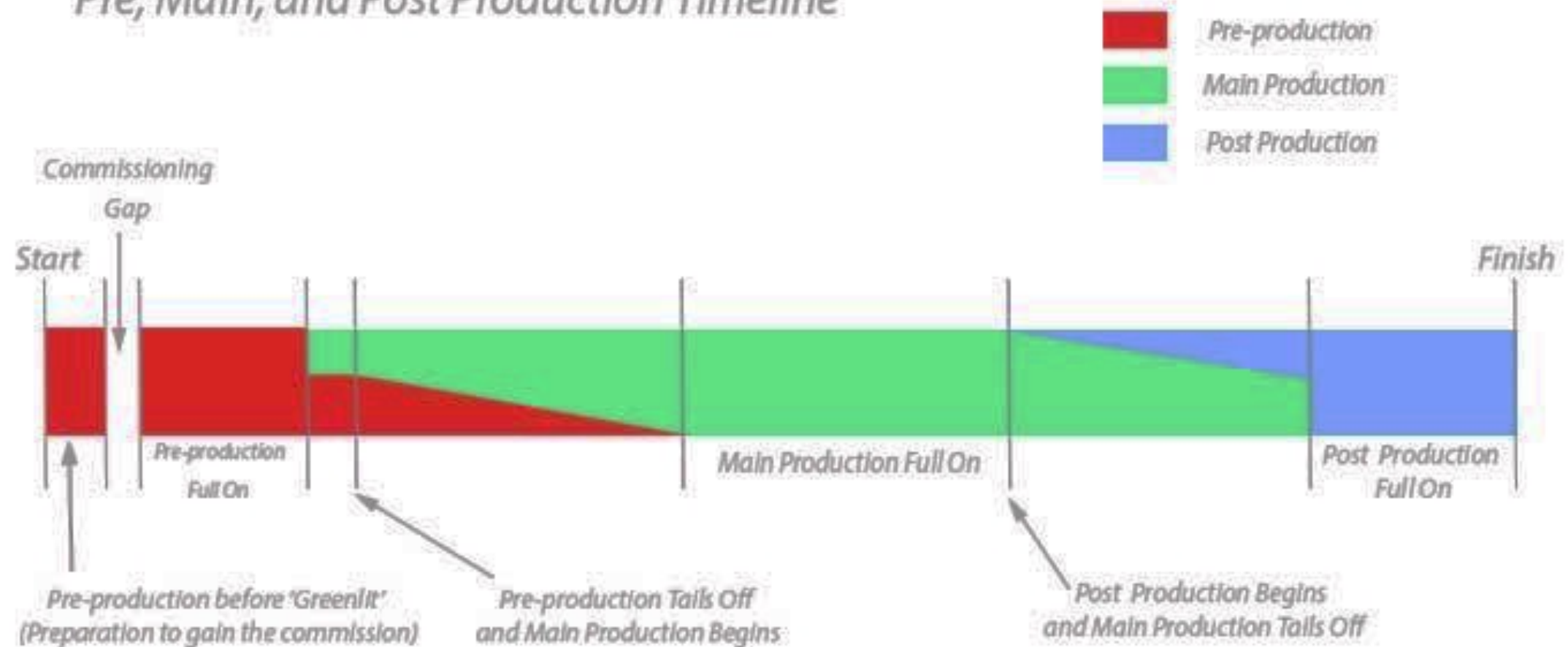
Incorporate sophisticated static or dynamic visual effects.

Grade a sequence by the use of colour and other filtering techniques.

- Blurring of the borders between Pre Post & Production execution.
- Within a production, when does production stop and post production start?
- With regard to 3D computer animation there usually is no definitive point where
- one stops and the other starts.
- If you look at the image below, you can see that both pre-production
- and post production (represented in blue) usually overlap, to a lesser or greater
- extent, depending on the type of project.



Pre, Main, and Post Production Timeline







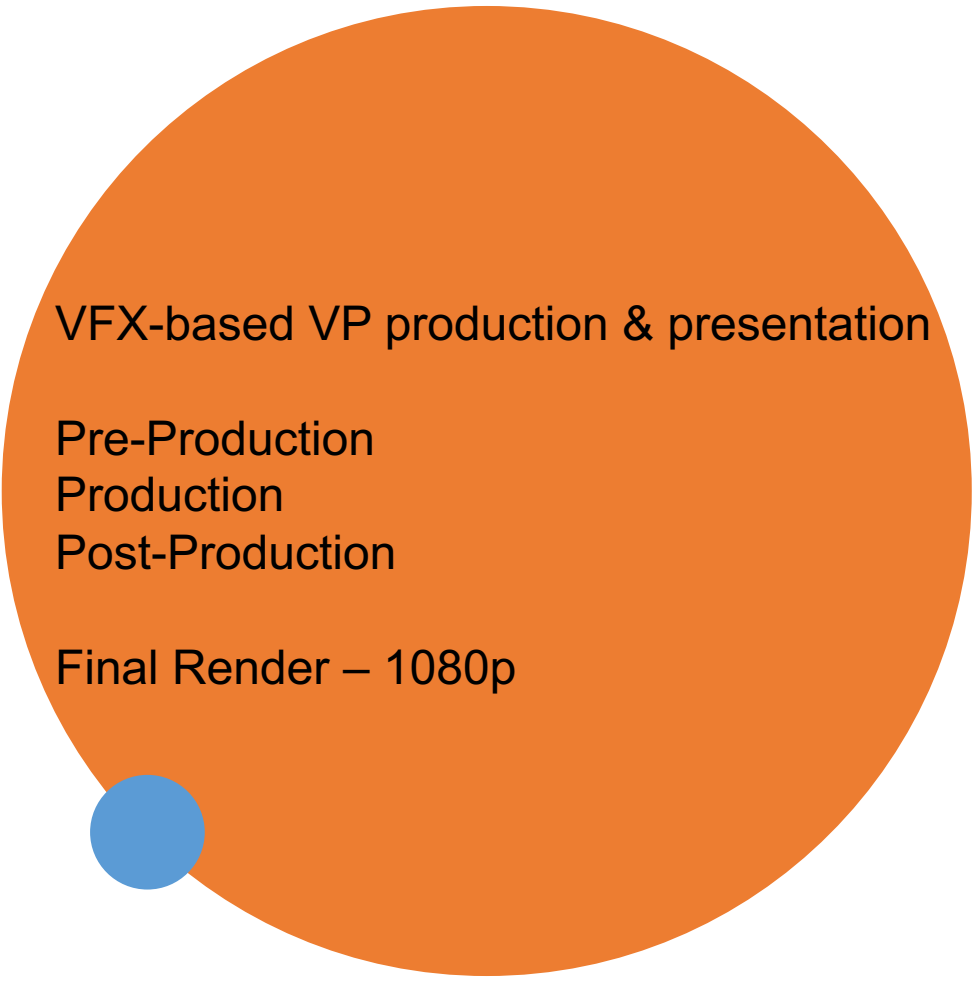






Course Work1

- For this assignment, it will be necessary to use the VFX compositing techniques, rotoscoping, keying and 2Dtracking. These are listed as the main areas of focus for the portfolio.
 - As the portfolio grows, various essential elements from the individual elements of a final image to a whole final composite will require the integration of several disciplines in order to meet specific briefs. With a guided reference to support students in applying their knowledge to the work at hand, these components are designed to replicate common junior-level industry activities.
 -
 - You will create a visually compelling VFX shot, which should demonstrate your post-production skill technically as well as creatively. The length of your final VFX shot should be between 30 sec to 60 seconds.
 - Incorporate the footage with your 2D and 3D elements, visual effect scene using Adobe After
 - Effects, Mocha, Premiere and Photoshop.
- 



VFX-based VP production & presentation

Pre-Production

Production

Post-Production

Final Render – 1080p

Your VFX scene must make use the following skills/techniques:

- **Composite Effect techniques:**

-

- Tracking and stabilising motion - After Effects
 - 3D Camera Tracking - After Effects
 - Matchmove with After Effects & Maya
 - Export After Effects camera data to MAYA
 - Colour correcting - After Effects
 - Rendering - After Effects
 - Master - Output - Adobe Premiere
-
- You production should be planned appropriately using a storyboard and design brief that you should include in the blog space where you will evidence your work. You should agree your ideas with your tutor before production begins. Once the composite effect scene is completed, export it in MP4 format and submit the finished file as part of your project

A Reflective Account of your VFX “pre-production, production and post-production process;

Your “**Reflective Account**” should conform to the guidelines described below and should be thorough in its explanation of your pre-production, production and post production workflow.

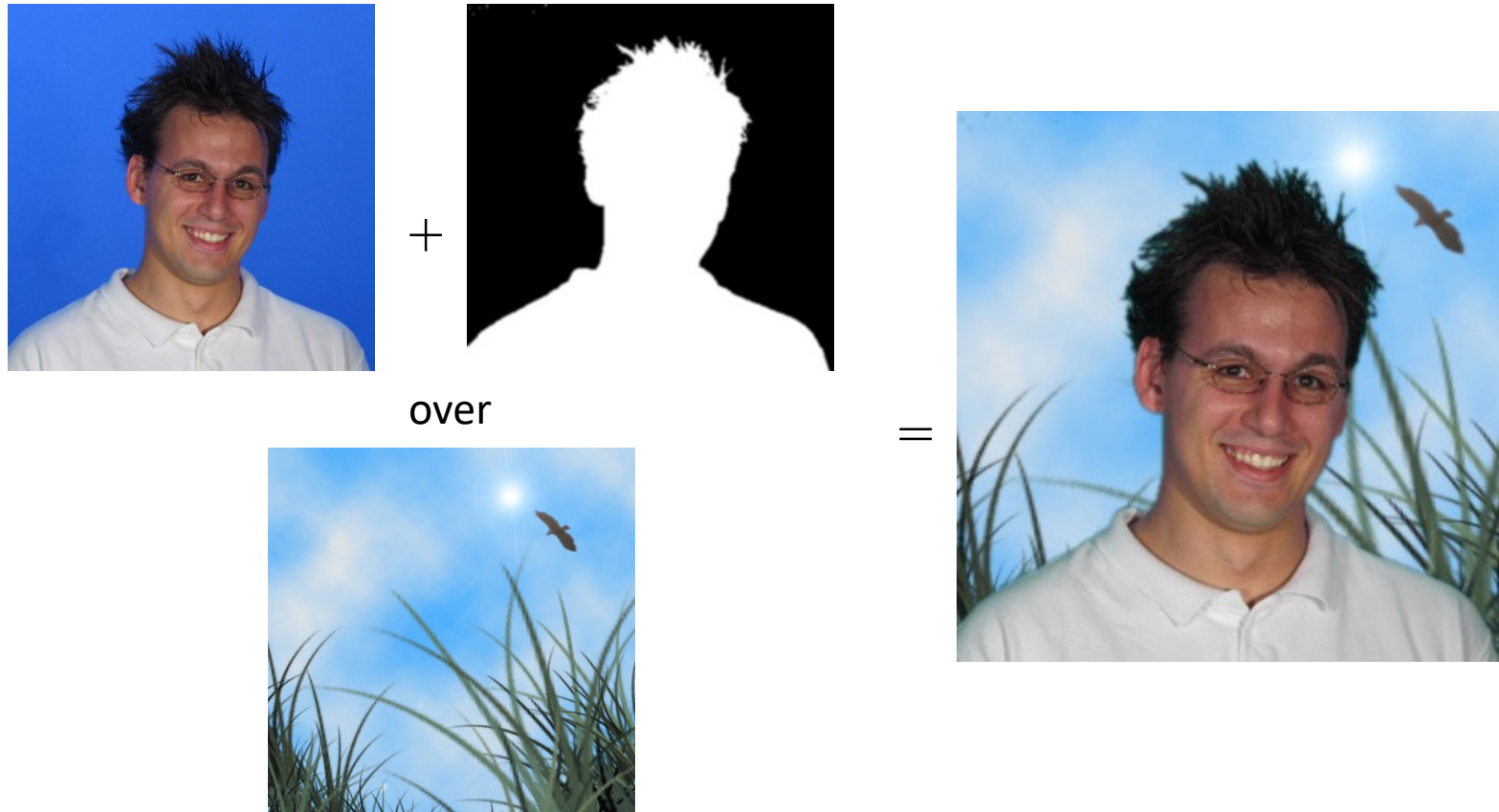
For providing a solid account of the production process it must include:

- Use your own words and for your guidance
- 1000 words in length - including reference to any of your original images.
- Include the chronological order of your production pipeline and explain and describe your pre-production and postproduction documentation, along with your animation.

This should include : -

1. A storyboard of the planned production depicting the content, composition, appearance and timing of your production.
- Your “**Reflective Account**” must be saved in Microsoft Word (.docx) format or Word Press online blog and explain your workflow for still image sequence photography, image import into video editing software, use of Adobe After Effects, achievements and difficulties experienced.

A typical compositing operation



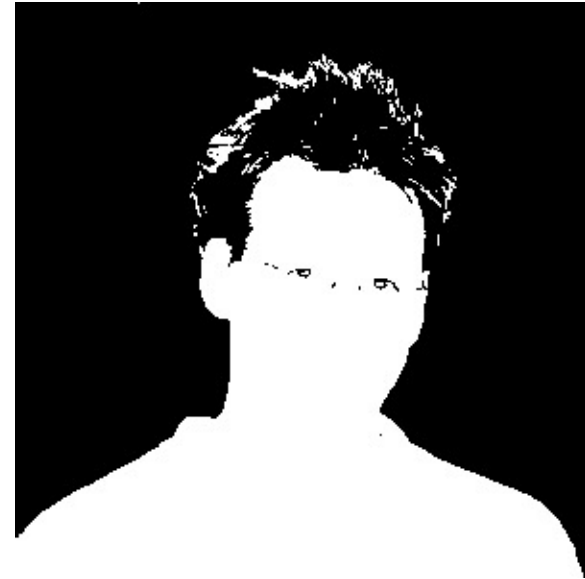
Creating a luma mask



Greyscale image



Luma level 010



Luma level 040

depends on high contrast with image background

Shooting the foreground against a blue screen



Or a green screen

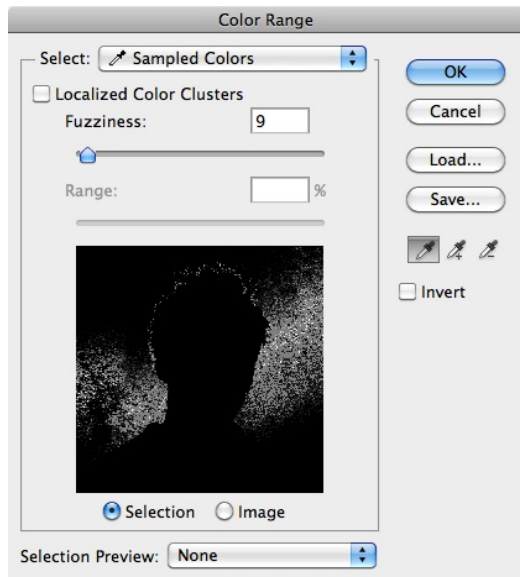


Foreground shot for chroma keying

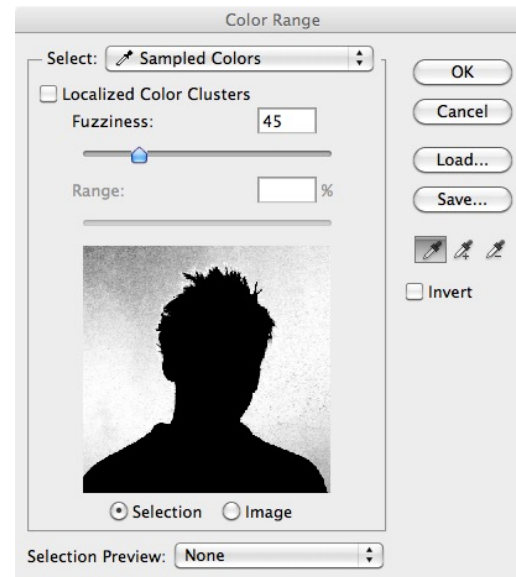


“Pulling” an Alpha Mask

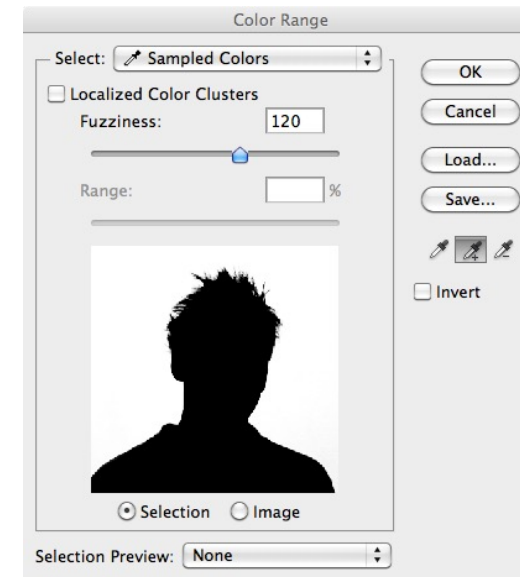
Fuzziness = 9



Fuzziness = 45



Fuzziness = 120

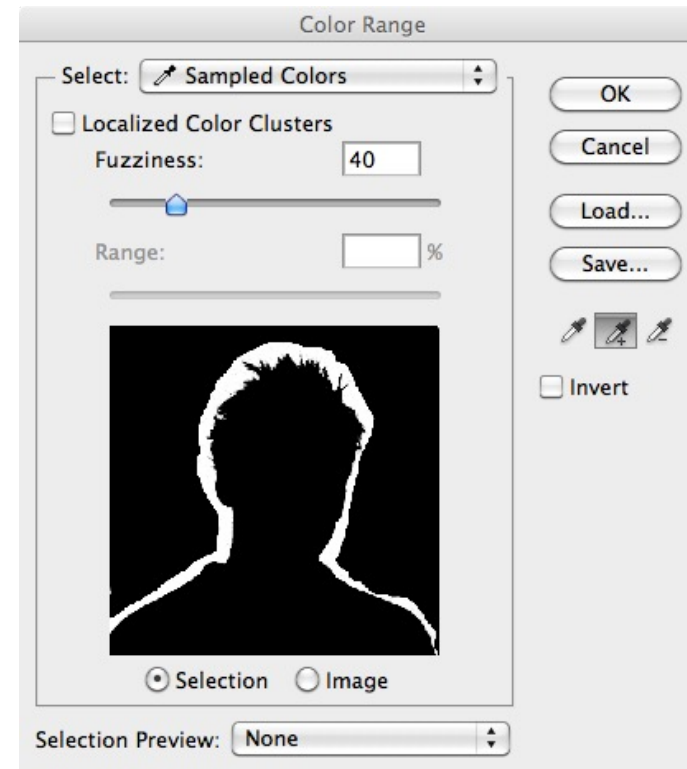


Chroma keying – color match too wide

First use a “garbage” mask



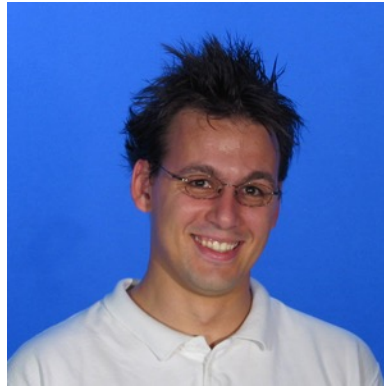
Fuzziness = 40



Chroma keying – color match narrower

Associated color image

RGB



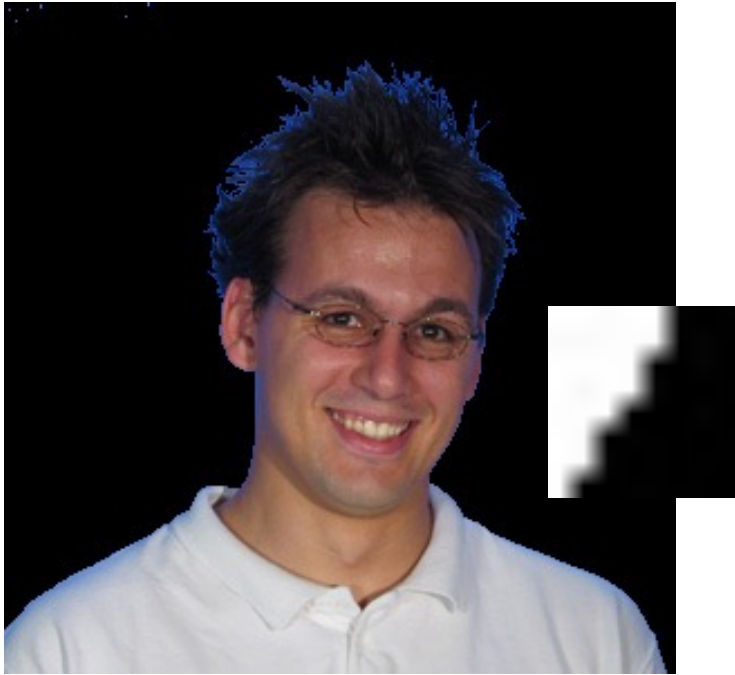
α



Smoothing to improve mask



Smoothing to improve mask

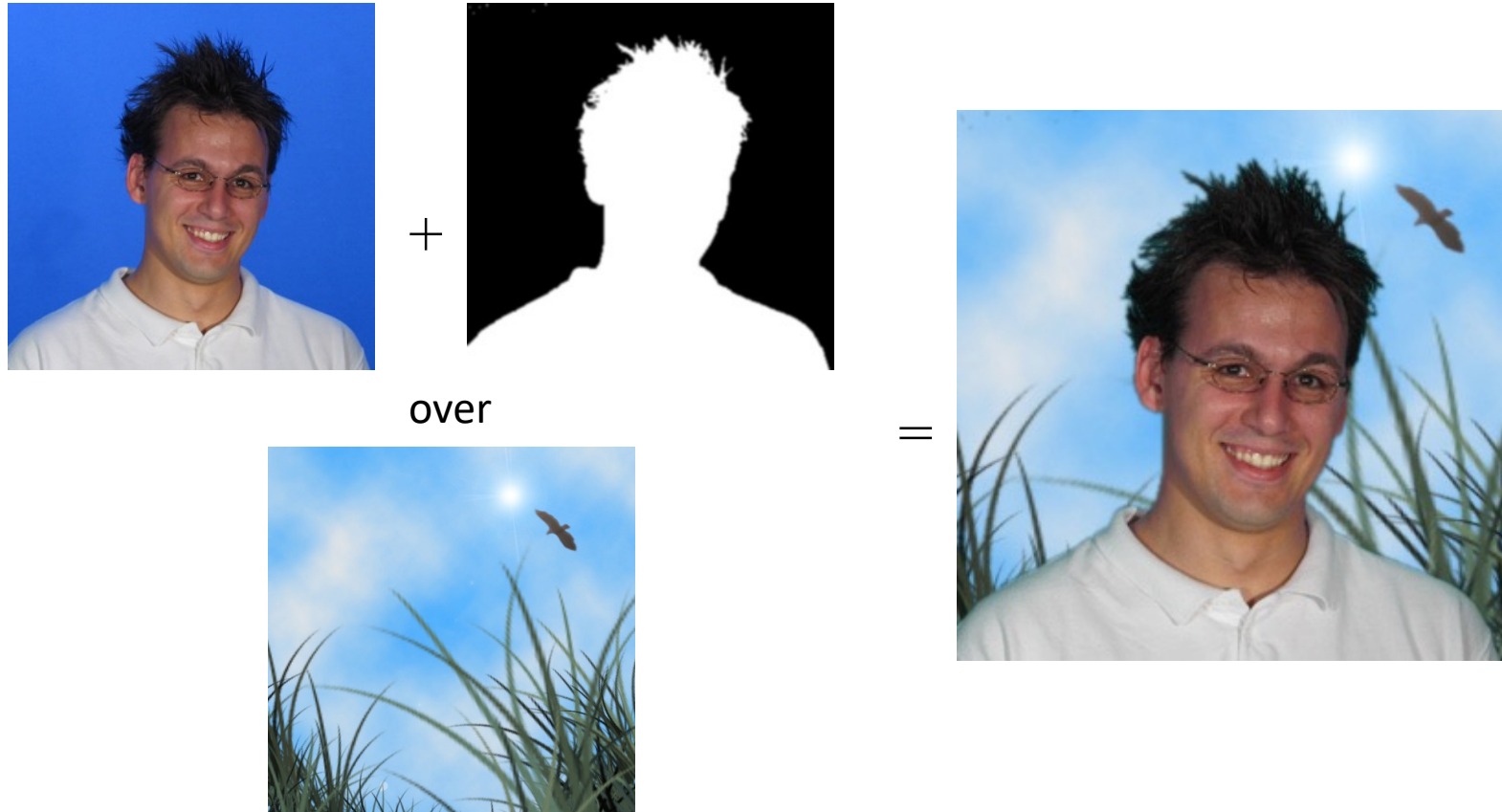


Suppressing “blue spill”



$$B = \min(R, G, B)$$

Final compositing operation

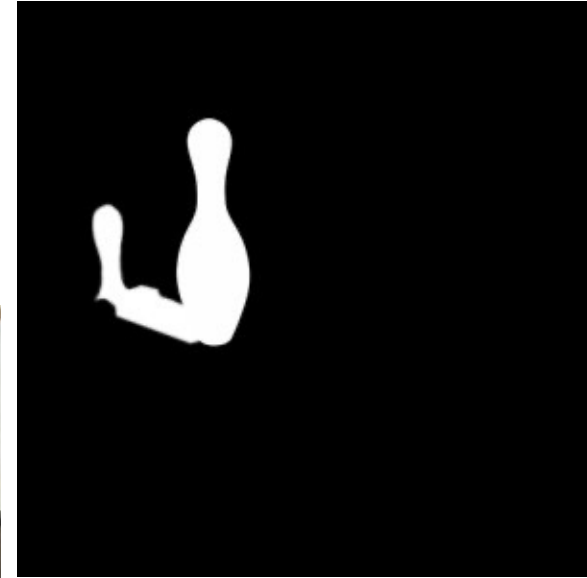


Difference mattes



Clean plate

Plate with object

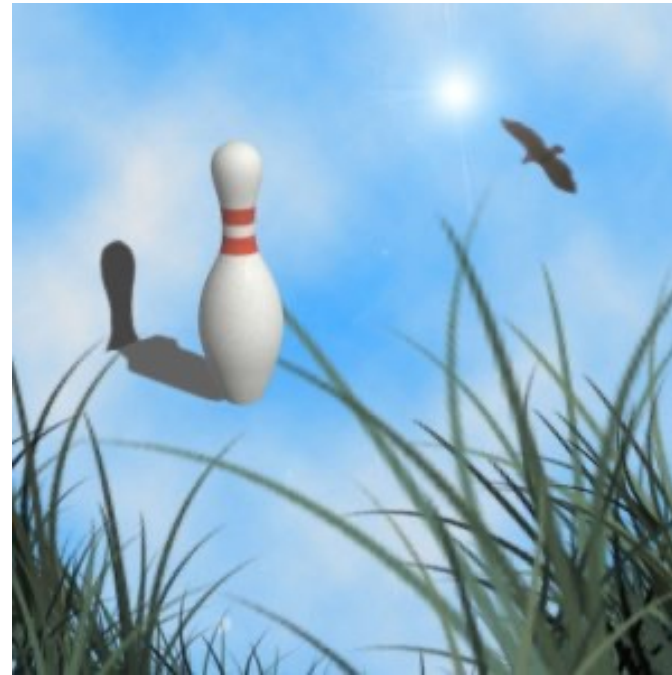


Difference matte

Difference mattes



Matte applied to original plate



Matte used for compositing









Key:

Keying in on one color or luminance level and removing it from the image.

Chroma Key:

Chroma: saturation of a color

A chroma key is an effect that allows you to remove all of one selected color from an image.

<http://www.youtube.com/watch?v=DPVpR1yy92k>

Luma Key:

Luminance : brightness

A luma key is an effect that allows you to remove shades of black and white from an image. [Play video](#)

Foreground and Background :

When working with a green screen your working with two layers of video.

Foreground and Background :

Foreground



This is the layer the key will be applied to

Foreground and Background : Background



This is the layer that will show through
where the green is.



What do you think is meant by visual effects?

What roles do you think exist if you wanted to work with visual effects?

What qualities do you think you would need to have to work in this industry?

Write these ideas on sticky notes and put them on a flipchart.



- Double Negative (DNEG)
- Framestore
- MPC
- Industrial Light & Magic (ILM)
- The Mill.