

# Production Management Part 1

An analysis of a minute-long section of the movie “9”, taken from the DVD version of the film.

## Introduction

This is my analysis of a section from 33 seconds to 1 min and 33 seconds of the movie “9”. The section is fully CGI, without any live action. Most of the sections comprise 3D elements, with the last couple of seconds of the last but one shot and the whole of the final shot very likely to be completely 2D.

The sequence has 10 shots in it with them all being relatively close up with minimal background detail. It finishes with a short title sequence involving glowing symbols changing into a glowing version of the number 9, with a black background and a small smoke element.

## Sequence Description

The sequence I am analysing is towards the very start of the film, which shows the pivotal character of “9” being created by an old man, in what looks like a workshop. Each shot shows the man working on parts of the character, starting with threading a needle, then onto cutting some fabric and sewing the character together. There is some kind of mechanical eye that is wired up and tested. A plug is placed inside the fabric character and some eyes are inserted into the characters head before it is left hanging on a metal contraption. The middle of the contraption has a circular flat area which looks like it could be a socket of some sort. A half ball shaped object with symbols on it is then placed into the “socket”, and the symbols start to glow. As the symbols glow, the background fades to black and the symbols spin and morph into a large number 9. The number then moves towards and through the camera with some smoke behind it, before completely fading to black.

## Sub-Sequences

There are no Sub-Sequences present within the analysed section.

## Set-Ups

Some of the shots use the same camera angle and background content. These shots will be identified by the same set-up number.

## Shot Descriptions

### Shot 1:

**Set-Up:** 1.

**Description:** CU of a needle head and part of an old male character's face, wearing glasses, close behind it. A thread is pushed through the eye of the needle. Fingers are seen holding the thread as it is pushed through the eye.

**Camera:** CU Locked Off

**Elements:** Needle Head. Thread. Old male face. Glasses. 2 old male fingers.

**Comments:** Needle, thread and fingers in focus, the face is out of focus. The only thing moving in the background is the character's eye.

### Shot 2:

**Set-Up:** 2.

**Description:** A pair of hands, the right hand holding a piece of fabric, the left hand cutting the same fabric over a wooden workbench/desk.

**Camera:** Mid CU Zooming out very slowly.

**Elements:** A pair of old male hands. Scissors. Piece of fabric. Wooden workbench/desk. Nail. Hex nut. A sheet of old paper. The dark background of shelves with random items on them.

**Comments:** The dark background of shelves can be 2D or a prerendered still.

### Shot 3:

**Set-Up:** 3. (1<sup>st</sup> use)

**Description:** CU of a humanoid fabric character being held by a left hand, while a needle is pushed through the seam of the fabric character by a right hand.

**Camera:** CU with a slight pan and tilt from the bottom left to the top right of the scene.

**Elements:** A pair of old male hands. A fabric humanoid-shaped doll character, with a zipper. A needle. A wooden workbench/desk. Corner of a sheet of paper.

**Comments:** The wooden workbench/desk and paper can be 2D or a prerendered still.

### Shot 4:

**Set-Up:** 3. (2<sup>nd</sup> use)

**Description:** CU of two fingers of a right hand holding a circular metal object with a wire coming out of the back of it, the end of the wire is exposed. Two fingers of a left hand, holding another wire with an exposed end, puts the two ends of the wire together. A spark occurs and the hole in the middle of the circular metal object closes and opens again twice in very quick succession.

**Camera:** CU with slight anti clockwise rotation.

**Elements:** 2 fingers from a right hand of an old male person. 2 fingers from a left hand of an old male person. A circular metal object with a wire. Another wire. A wooden workbench/desk. Edge of paper on workbench/desk. A spark.

**Comments:** The wooden workbench/desk and paper can be 2D or a prerendered still.

## Shot 5:

**Set-Up:** 4

**Description:** CU of two fingers of a left hand holding a small robotic left hand with forearm. A partial righthand holding a screw driver tightens something on the index finger of the robotic hand.

**Camera:** CU with a pan and tilt from top right of the scene to the bottom left.

**Elements:** Left finger and thumb of an old male person. Right hand of an old male person. Small robotic left hand and forearm. Screwdriver. Background with shelves, books and some clear lab glassware.

**Comments:** The background shelving and objects can be 2D or a prerendered still.

## Shot 6:

**Set-Up:** 5

**Description:** CU of a fabric humanoid-shaped doll character having an object placed in its head using forceps by a much larger male character. Shot focused on the fabric humanoid-shaped doll character.

**Camera:** Mid CU with a pan and tilt from top right of the scene to the bottom left.

**Elements:** A body of a male with a lab coat in the background. A larger pair of hands of an old male person. A fabric doll humanoid-shaped character. A pair of metal forceps. A short cylindrical metal object. A wooden workbench/desk. A dark background with little detail.

**Comments:** The dark background can be 2D or a prerendered still.

## Shot 7:

**Set-Up:** 3. (3<sup>rd</sup> Use)

**Description:** CU of a fabric humanoid-shaped doll character being held by an old male left hand. The right hand of the old male is holding a fountain pen, which has its tip dipped in the ink pot before drawing the number 9 on the back of the humanoid doll character.

**Camera:** CU with a very slight zoom in.

**Elements:** Left hand of an old male person. Right hand of an old male person. A fabric doll humanoid-shaped character. Black ink pot. A wooden handled fountain pen. A wooden workbench/desk. Screwdriver. Corner of a sheet of paper with writing on. Corner of a sheet of blank paper. Unknown circular dark object or hole in the workbench/desk.

**Comments:** The wooden workbench/desk, screwdriver and paper can be 2D or a prerendered still.

## Shot 8:

**Set-Up:** 3. (4<sup>th</sup> Use)

**Description:** CU of the fabric humanoid-shaped doll character lying on the wooden workbench/desk, with a large zipper which is opened to reveal the insides of the character. Inside the character some round metal objects can be seen. Two fingers of an old male person can be seen placing a small plug with three wires coming out of it, into one of the circular metal objects inside the fabric humanoid-shaped doll character.

**Camera:** CU Locked Off.

**Elements:** Two fingers of an old male person. Fabric humanoid-shaped doll character with zipper. Wooden workbench/desk. Small plug with three wires coming out of it. 2 circular metal objects.

**Comments:** The wooden workbench/desk and paper can be 2D or a prerendered still.

## Shot 9:

**Set-Up:** 6.

**Description:** CU of a metal contraption with arms coming out of a central circular "socket". The fabric humanoid-shaped doll character can be seen in the background as two forearms of the old male person can be seen. They look like they are tying the fabric humanoid-shaped doll character up behind the arms of the metal contraption. As the camera moves in on the central circular "socket", the hands move off screen, before the left hand appears holding a hemispherical object, with some markings on, which is placed into the socket. The markings start to glow green and everything else fades to black.

**Camera:** CU Zooming in and panning slightly.

**Elements:** Both forearms and hands of the old male person. A circular metal contraption with three visible curved arms radiating from a central circular "socket". Fabric humanoid-shaped doll character with zipper. Metallic hemispherical object. Background shelving. Three green glowing symbols.

**Comments:** The background shelving and objects can be 2D or a prerendered still.

## Shot 10:

**Set-Up:** 7.

**Description:** Three green glowing symbols, on a black background, rotate and morph into a larger green/yellow glowing number nine (9). The number nine (9) symbol moves towards the camera and passes out of frame, leaving a light Smokey trail behind it.

**Camera:** Locked Off.

**Elements:** Three green glowing symbols. A larger green/yellow glowing number nine. Smoke trail. Black background.

**Comments:** This sequence can be completely 2D.

## List of Set-Ups:

Number of Unique set-ups: 6

Re-used set-ups: 1

| Re-Used Setups: | Set-up Description                                 | Repeated | Days     |
|-----------------|----------------------------------------------------|----------|----------|
| 1               | Wooden workbench/desk with papers and screwdriver. | 4        | 2        |
|                 | <b>Set-ups Total Days</b>                          |          | <b>2</b> |

### All Characters in the Sequence:

| Element                                | Appears in shot No | Remarks                                                                                                                                  | Build Days | Text Days | Rig Days | Total |
|----------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|----------|-------|
| Hands/fingers of old man               | 1,2,3,4,5,6,7,8    | Fingers have to move and grip objects.                                                                                                   | 5          | 4         | 3        | 12    |
| Hands and forearms of old man          | 9                  | Hands and fingers have to move.                                                                                                          | 5          | 4         | 3        | 12    |
| Face of old man                        | 1                  | Face doesn't move, only the eye.                                                                                                         | 5          | 4         | 1        | 10    |
| Body of old man                        | 6                  | Most of body is in the distance but hands and arms need to move.                                                                         | 4          | 3         | 3        | 10    |
| Fabric Doll Character                  | 3,6,7,8 and 9      | Arms and head need to move (Shot 7). Part of fabric needs to move when needle is pushed through (Shot 3). Zipper needs to work (Shot 8). | 8          | 7         | 4        | 19    |
| Detailed hand of Fabric Doll Character | 5                  | Index finger needs to move slightly laterally.                                                                                           | 6          | 5         | 2        | 13    |
| Character Days Total                   |                    |                                                                                                                                          |            |           |          | 76    |

### All Properties in the Sequence:

| Element         | Appears in shot No | Remarks                               | Build Days | Text Days | Rig Days | Total |
|-----------------|--------------------|---------------------------------------|------------|-----------|----------|-------|
| Needle          | 1,3                |                                       | 0.5        | 1         | 0        | 1.5   |
| Thread          | 1                  | Thread needs to move slightly.        | 1          | 1         | 1        | 3     |
| Glasses         | 1                  | One side with transparent lens.       | 1.75       | 1         | 0        | 2.75  |
| Piece of fabric | 2                  | Needs to move and be cut by scissors. | 0.5        | 1         | 1        | 2.5   |

|                                                    |   |                                                                                   |      |      |     |      |
|----------------------------------------------------|---|-----------------------------------------------------------------------------------|------|------|-----|------|
| <b>Scissors</b>                                    | 2 | Scissors need cutting motion.                                                     | 2    | 2    | 1   | 5    |
| <b>Wooden desk</b>                                 | 2 |                                                                                   | 1    | 1    | 0   | 2    |
| <b>Nail</b>                                        | 2 |                                                                                   | 0.25 | 0.25 | 0   | 0.5  |
| <b>Hex Nut</b>                                     | 2 |                                                                                   | 0.25 | 0.25 | 0   | 0.5  |
| <b>Sheet of old paper</b>                          | 2 |                                                                                   | 0.25 | 0.25 | 0   | 0.5  |
| <b>Background shelves (1)</b>                      | 2 | 2D or prerendered.                                                                | 2    | 2    | 0   | 4    |
| <b>Doll eye (1)</b>                                | 4 | Doll eye has wire coming out of the back of it. Aperture needs to open and close. | 1.5  | 1    | 1   | 3.5  |
| <b>Wires</b>                                       | 4 | Wires don't need to bend.                                                         | 0.5  | 0.5  | 0.5 | 1.5  |
| <b>Background shelves (2)</b>                      | 5 | 2D or prerendered.                                                                | 2    | 2    | 0   | 4    |
| <b>Screwdriver (1)</b>                             | 5 | Needs to rotate clockwise.                                                        | 2    | 2    | 0.5 | 4.5  |
| <b>Doll eye(s) (2)</b>                             | 6 | 2 Doll eyes without wire.                                                         | 0    | 0    | 0   | 0    |
| <b>Metal forceps</b>                               | 6 | Forceps need to grip Doll eye and also open slightly .                            | 2    | 2    | 1   | 5    |
| <b>Background (3)</b>                              | 6 | 2D or prerendered.                                                                | 2    | 2    | 0   | 4    |
| <b>Black Ink Pot</b>                               | 7 | Needs to move slightly when pin is dipped into it.                                | 2    | 1    | 0.5 | 3.5  |
| <b>Wooden handled fountain Pen</b>                 | 7 |                                                                                   | 2    | 2    | 0   | 4    |
| <b>Screwdriver (2)</b>                             | 7 | 2D or prerendered.                                                                | 0    | 0    | 0   | 0    |
| <b>Three wired plug</b>                            | 8 | Needs a little bit of bending movement in the wires.                              | 1.5  | 1    | 0.5 | 3    |
| <b>Metal contraption with arms</b>                 | 9 |                                                                                   | 4    | 4    | 0   | 8    |
| <b>Small hemispheric metal object with symbols</b> | 9 | Needs to move into position on metal contraption.                                 | 5    | 6    | 0   | 11   |
| <b>Glowing symbols (1)</b>                         | 9 | 2D                                                                                | 0.5  | 0.25 | 0.5 | 1.25 |

|                            |    |                                      |      |      |     |             |
|----------------------------|----|--------------------------------------|------|------|-----|-------------|
| <b>Glowing symbols (2)</b> | 10 | 2D. Rotates and merge into number 9. | 0    | 0    | 0   | 0           |
| <b>Glowing number 9</b>    | 10 | 2D. Moves through camera.            | 0.25 | 0.25 | 0.5 | 1           |
| <b>Smoke trail</b>         | 10 | 2D. Wasps around.                    | 0.25 | 0.25 | 0.5 | 1           |
| <b>Property Days Total</b> |    |                                      |      |      |     | <b>77.5</b> |

## The Animation and Choreography:

| Reference     | Description                                                                                                                                                                                                                                                                                                                                                                             | Days for each Participant                               | Total days |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------|
| <b>Shot 1</b> | CU of a needle head and part of an old male character's face, wearing glasses, close behind it. A thread is pushed through the eye of the needle. Fingers are seen holding the thread as it is pushed through the eye.                                                                                                                                                                  | Needle 0.25, Thread 0.5, Fingers 0.5, Eye 1             | 2.25       |
| <b>Shot 2</b> | A pair of hands, the right hand holding a piece of fabric, the left hand cutting the same fabric over a wooden workbench/desk.                                                                                                                                                                                                                                                          | Righthand 0.5, Lefthand 2, Scissors 1                   | 3.5        |
| <b>Shot 3</b> | CU of a humanoid fabric character being held by a left hand, while a needle is pushed through the seam of the fabric character by a right hand.                                                                                                                                                                                                                                         | Fabric character 2, Lefthand 1, Needle 0.5, Righthand 1 | 4.5        |
| <b>Shot 4</b> | CU of two fingers of a right hand holding a circular metal object with a wire coming out of the back of it, the end of the wire is exposed. Two fingers of a left hand, holding another wire with an exposed end, puts the two ends of the wire together. A spark occurs and the hole in the middle of the circular metal object closes and opens again twice in very quick succession. | Righthand 0.5, Lefthand 1, Wire 0.5, Spark 0.25, Eye 1  | 3.25       |
| <b>Shot 5</b> | CU of two fingers of a left hand holding a small robotic left hand with forearm. A partial righthand holding a screw driver tightens something on the index finger of the robotic hand.                                                                                                                                                                                                 | Left hand 1, Robot hand 1, Righthand 2, Screwdriver 0.5 | 4.5        |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                          |     |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Shot 6</b> | CU of a fabric humanoid-shaped doll character having an object placed in its head using forceps by a much larger male character. Shot focused on the fabric humanoid-shaped doll character.                                                                                                                                                                                                                                                                                                                                                                                                                   | Male body and hands 3,<br>Forceps 1.5,<br>Eye 0.5,<br>Fabric character 0.5                                                               | 5.5 |
| <b>Shot 7</b> | CU of a fabric humanoid-shaped doll character being held by an old male left hand. The right hand of the old male is holding a fountain pen, which has its tip dipped in the ink pot before drawing the number 9 on the back of the humanoid doll character.                                                                                                                                                                                                                                                                                                                                                  | Fabric character 3,<br>lefthand 1,<br>Righthand 3,<br>Ink pot 0.5,<br>Fountain pen 2                                                     | 8.5 |
| <b>Shot 8</b> | CU of the fabric humanoid-shaped doll character lying on the wooden workbench/desk, with a large zipper which is opened to reveal the insides of the character. Inside the character some round metal objects can be seen. Two fingers of an old male person can be seen placing a small plug with three wires coming out of it, into one of the circular metal objects inside the fabric humanoid-shaped doll character.                                                                                                                                                                                     | Fabric character with zipper 2,<br>Righthand 2,<br>Plug with wires 1                                                                     | 5   |
| <b>Shot 9</b> | CU of a metal contraption with arms coming out of a central circular "socket". The fabric humanoid-shaped doll character can be seen in the background as two forearms of the old male person can be seen. They look like they are tying the fabric humanoid-shaped doll character up behind the arms of the metal contraption. As the camera moves in on the central circular "socket", the hands move off screen, before the left hand appears holding a hemispherical object, with some markings on, which is placed into the socket. The markings start to glow green and everything else fades to black. | Fabric character 1,<br>Hands and forearms 3,<br>Metal contraption 0.25,<br>Lefthand 1,<br>Metallic Hemisphere 1,<br>Glowing symbols 0.25 | 6.5 |

|                             |                                                                                                                                                                                                                                               |     |             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|
| <b>Shot 10</b>              | Three green glowing symbols, on a black background, rotate and morph into a larger green/yellow glowing number nine (9). The number nine (9) symbol moves towards the camera and passes out of frame, leaving a light Smokey trail behind it. | N/A | 0           |
| <b>Animation Days Total</b> |                                                                                                                                                                                                                                               |     | <b>43.5</b> |

### The Animation and Choreography:

| Reference                         | Description                                               | Total days |
|-----------------------------------|-----------------------------------------------------------|------------|
| <b>Lighting (final) Sequences</b> | Applying lighting to scenes.                              | 5          |
| <b>Rendering</b>                  | Time for setting up renders.                              | 6          |
| <b>Post Production</b>            | Includes animating the glowing letters in Scene 9 and 10. | 10         |
| <b>Review Sessions</b>            | Allowing for one day per shot.                            | 10         |
| <b>Other Processes Days Total</b> |                                                           | <b>31</b>  |

### The Final Scope:

| Process           | Days       |
|-------------------|------------|
| <b>Set-Ups</b>    | 2          |
| <b>Characters</b> | 76         |
| <b>Properties</b> | 77.5       |
| <b>Animation</b>  | 43.5       |
| <b>Other</b>      | 31         |
| <b>Total Days</b> | <b>230</b> |

## Summary

In my overall calculation, one person would take 230 days to complete the work of this minute sequence from the movie "9".

The final scope is 230 days.

A number of people could have finished this sequence much more quickly. As an example, 23 people would take 10 days to complete this sequence. Or, if based on the schedule from part two, with three people working the project, it would take at a minimum of 76 days to complete, this does not preclude the need to wait for certain processes to be completed before other processes can begin.