

Design Course

## Lip Sync in Animation

Making the Character Talk

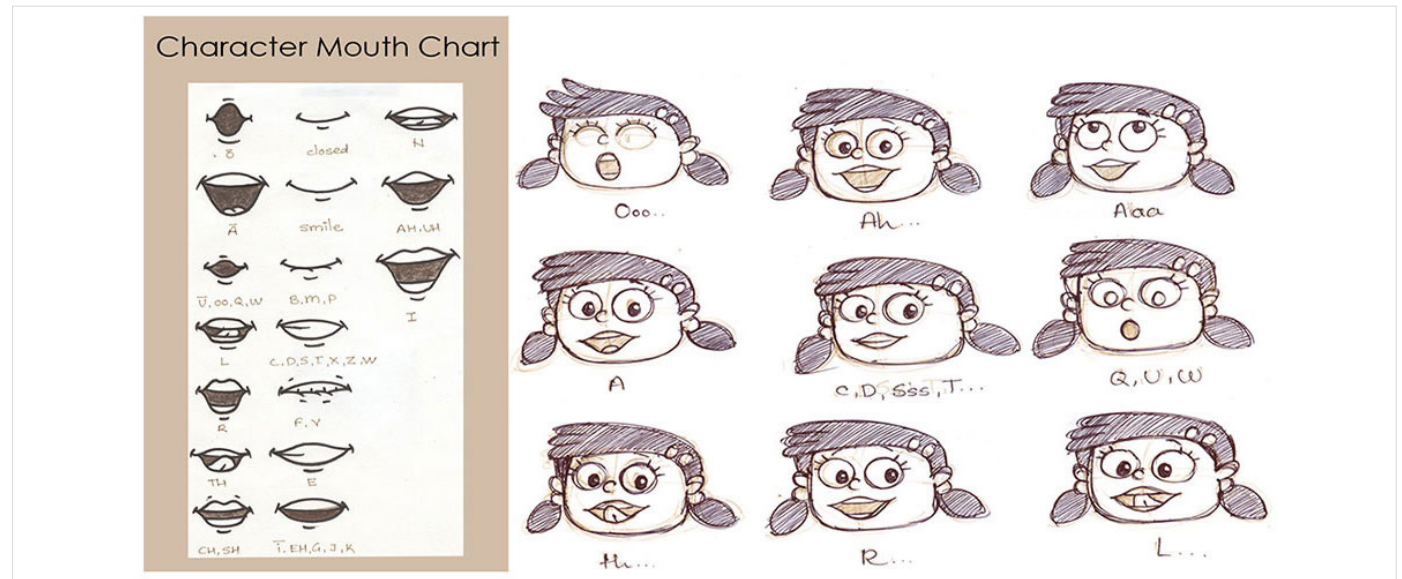
by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation>



1. Introduction
2. Process
3. Example
4. Summary
5. Video
6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/introduction>

## Introduction

As children we all loved watching cartoons. Remember our favorite characters like Mickey, Donald and Goofy? This list is endless! We loved the way they acted, danced, talked and walked. They all had distinct styles and voice. Remember, the way Donald Duck used to talk? It was so funny!

In a way animation can be defined as the moving and talking images of a character. Do you know how these images talk?

This process of synchronizing the sound to the character is known as 'Lip Sync'. Which can actually make your character come alive!



1. Introduction

2. Process

3. Example

4. Summary

5. Video

6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/process>

## Process

Process of Lip Sync in animation includes:

- a. Dialogue
- b. Mouth Charts
- c. Things to Remember

### Dialogue:

- This process starts with recording the dialogue first, using a sound recorder.
- After analyzing, it is broken down into individual phonetic syllables.
- The numbers of frames required for each syllable is counted and written down in the exposure sheet.

### Mouth Charts:

Then mouth shapes are drawn according to the phonetic syllable.  
For example: Closed mouth to the wide-open mouth.

### 1. Introduction

### 2. Process

### 3. Example

### 4. Summary

### 5. Video

### 6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/process>

1. Introduction

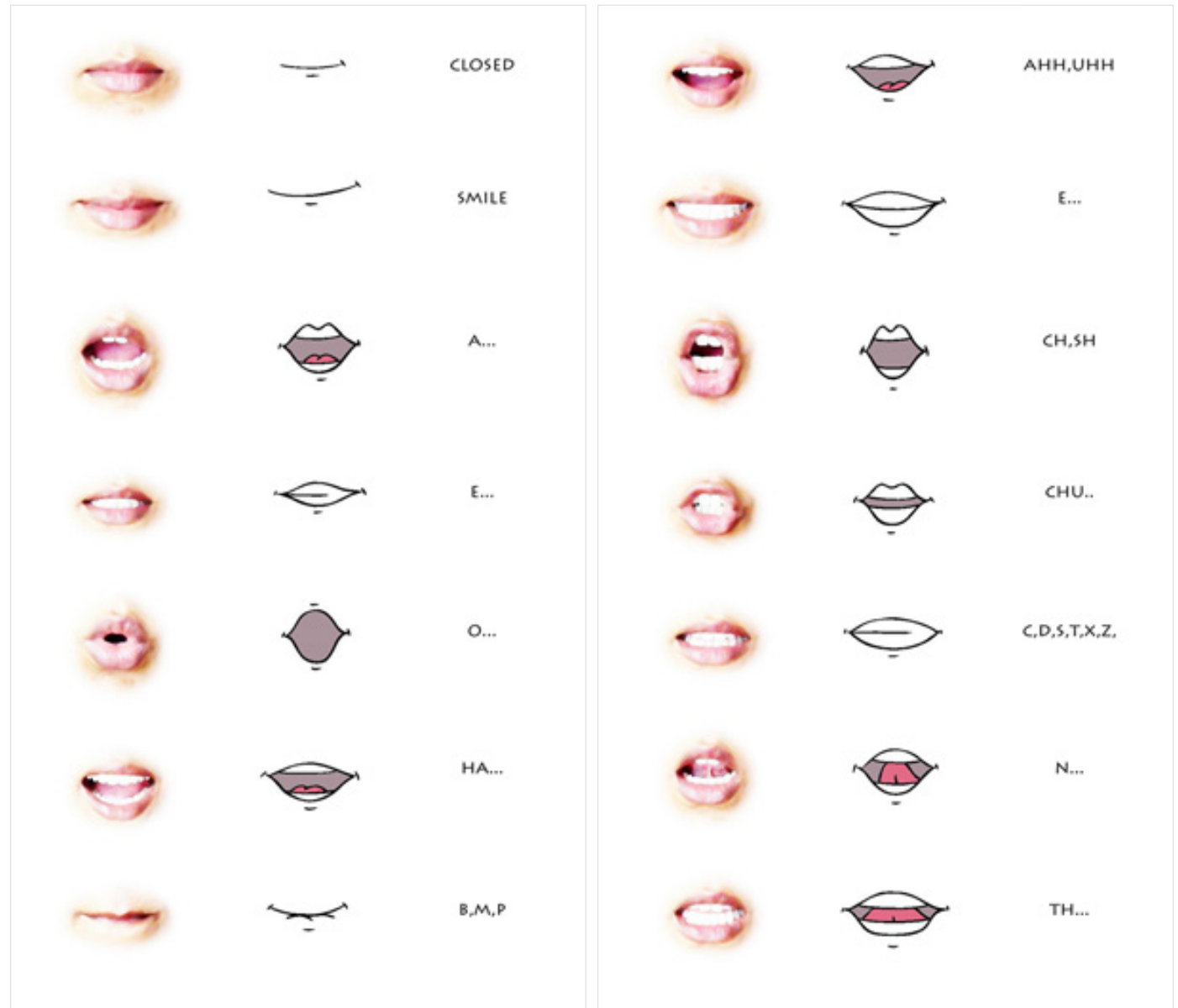
2. Process

3. Example

4. Summary

5. Video

6. Contact Details



Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/process>

### 1. Introduction

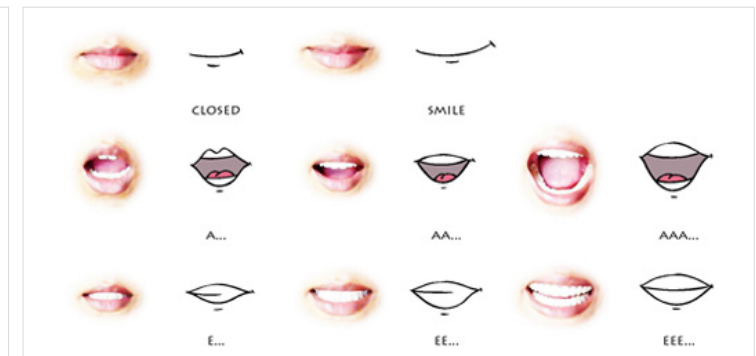
### 2. Process

### 3. Example

### 4. Summary

### 5. Video

### 6. Contact Details



Animators usually refer to their own mouth shapes and expressions, using a mirror.

**Things to Remember:**

- While animating a dialogue, pay attention to the sound they make and not the individual letters.
- Assign mouth shapes according to the phonetic vocals otherwise the animation will have a chattering effect.

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example>

## Example

To show how lip sync is done, let us animate this small poem written by Grace Andreacchi- 'Mother's Roses'.

### MOTHER'S ROSE:

A red rose

A white rose

A red rose

A white rose

A red rose

A white rose

That's all!

---- By Grace Andreacchi

A small girl who is reciting this poem was created for this. (Images of the character)



### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

### 4. Summary

### 5. Video

### 6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/recording-dialogue>

## Recording the Dialogue

Once the character is finalized, the dialogues are recorded on the sound recorder and transferred to the computer.

- Pitch of the recorded sound is changed to make it more cartoony and childlike.



### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

### 4. Summary

### 5. Video

### 6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/analyzing-dialogue>

## Analyzing the Dialogue

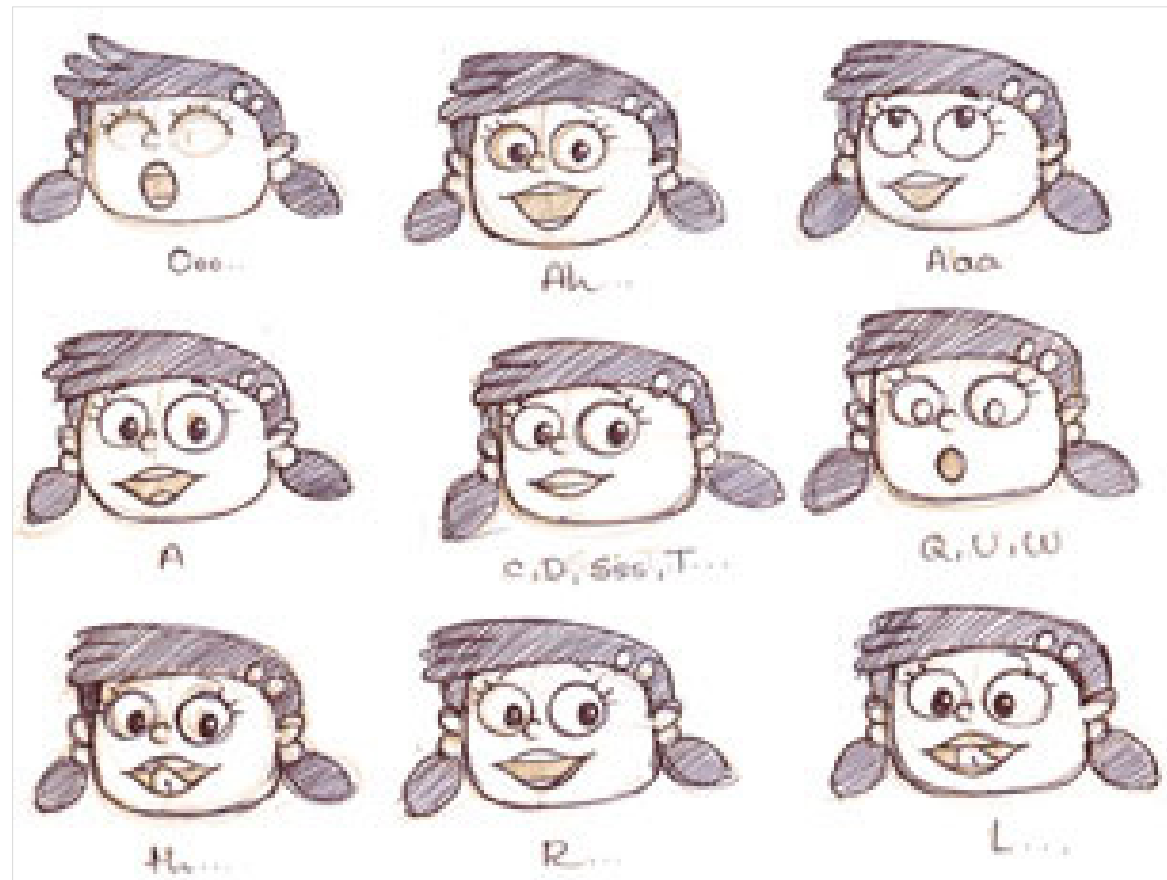
The sound track is then broken down into 'Phonemes' or 'Phonetic syllables'.

Phoneme is the sound produced while uttering the word. Combination of phonemes forms a word. It is a basic unit of any language.

(Reference: <https://en.wikipedia.org/wiki/Phoneme>)

The Images of sound track are divided into phonemes.

Number of frames required for each syllable is counted and written down in the exposure sheet.



### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

### 4. Summary

### 5. Video

### 6. Contact Details



Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

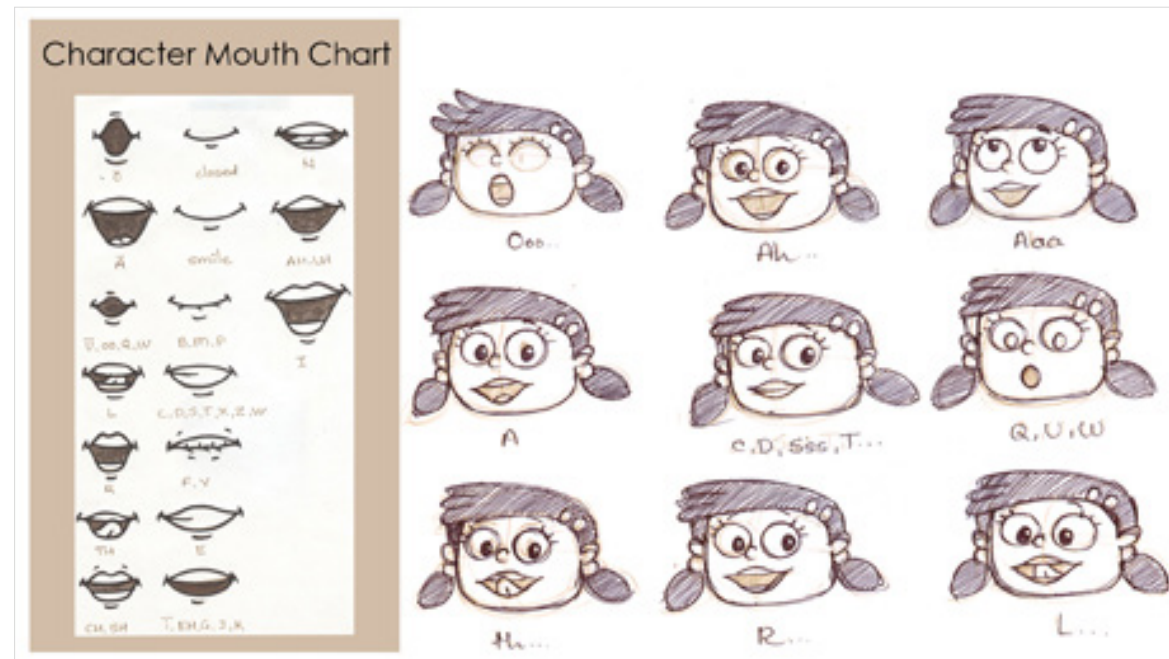
Source:

<https://www.dsource.in/course/lip-sync-animation/example/mouth-chart>

## Mouth Chart

- Based on the phonemes in the sound track, mouth shapes for the character are drawn.
- Use a mirror to take reference for mouth shapes and expressions while drawing.

Here are some mouth shapes for the character:



### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

### 4. Summary

### 5. Video

### 6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character>

## Animating Character



Storyboard



Line Drawing Animation



Drawing Mouth Shapes



Things to Remember

### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

##### 3d.1. Storyboard

##### 3d.2. Line Drawing Animation

##### 3d.3. Drawing Mouth Shapes

##### 3d.4. Things to Remember

### 4. Summary

### 5. Video

### 6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

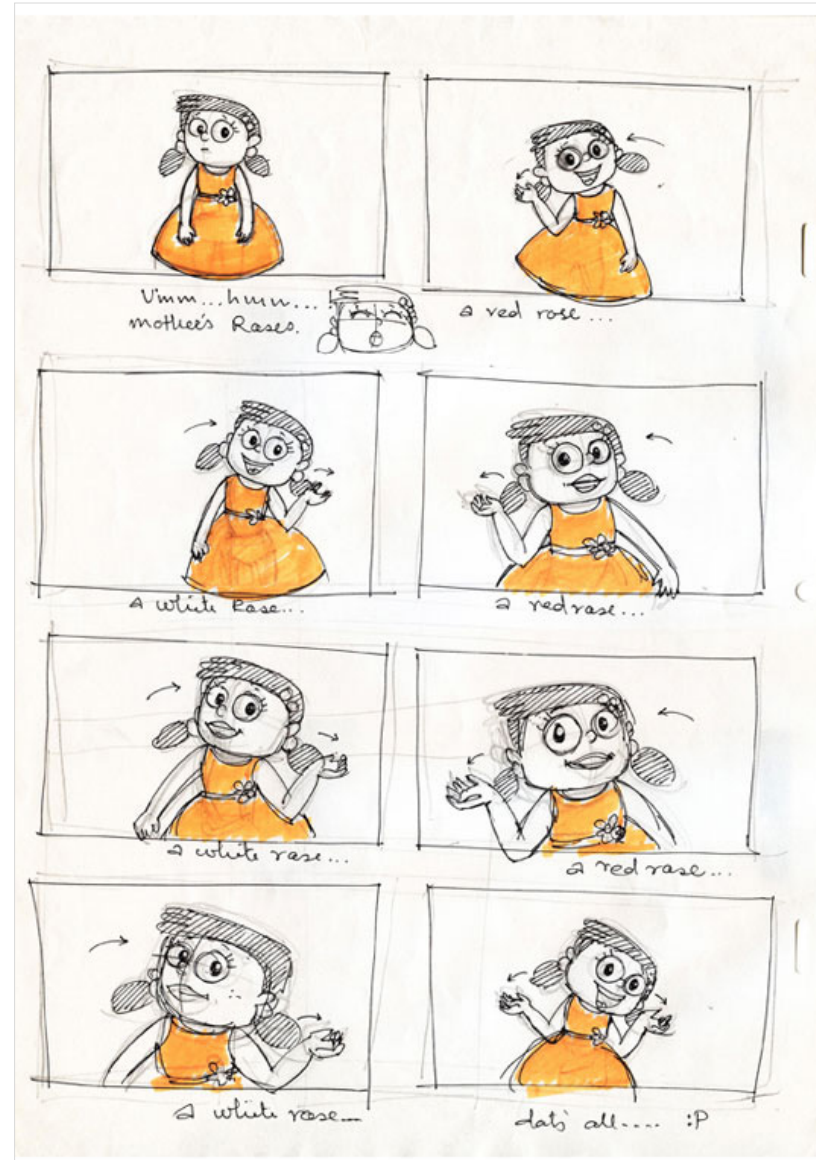
IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character/storyboard>

## Storyboard

- Rough storyboarding is done to know how the character is going to act out the poem.



### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

##### 3d.1. Storyboard

##### 3d.2. Line Drawing Animation

##### 3d.3. Drawing Mouth Shapes

##### 3d.4. Things to Remember

### 4. Summary

### 5. Video

### 6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character/line-drawing-animation>

### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

##### 3d.1. Storyboard

##### 3d.2. Line Drawing Animation

##### 3d.3. Drawing Mouth Shapes

##### 3d.4. Things to Remember

### 4. Summary

### 5. Video

### 6. Contact Details

## Line Drawing Animation

- Rough line drawings and key poses are drawn on the timeline with sound.
- After rough animation is done, we get a fair idea about the head movements of the character.
- In this animation, the character is tilting her head on either side while acting out the poem.

### MOTHER'S ROSES

A Red Rose,  
A White Rose,

A Red Rose,  
A White Rose,

A Red Rose,  
A White Rose,  
That's All...!!!



Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character/drawing-mouth-shapes>

## Drawing Mouth Shapes

- Mouth shapes are drawn according to the sound breakdown done in exposure sheet.

Scene:	Frames:	Production:	Page Number:
01	1-25	D'source mother's Roses lip sync	01
Field:	Background:	Animator:	
		Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Fld	Camera
	close	1								④
		2								
		3								
		4								
		5								
		6								
		7								
eye blink		8								
		9								
	open	10								②
		11								
	close	12								①
	m	13								②
	A	14								③
		15								③
	Da	16								③
		17								③
		18								③
		19								③
	R	20								②
		21								②
	S	22								②
		23								②
		24								②
		25								②

Scene:	Frames:	Production:	Page Number:
01	26-50	D'source mother's roses lip sync	02
Field:	Background:	Animator:	
		Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Fld	Camera
		1								
		2								
		3								
		4								
		5								
		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
	Ro	14								②
		15								②
		16								②
		17								②
		18								②
		19								③
		20								③
		21								③
		22								③
		23								③
		24								③
		25								③

1. Introduction
2. Process
3. Example
  - 3a. Recording the Dialogue
  - 3b. Analyzing the Dialogue
  - 3c. Mouth Chart
  - 3d. Animating Character
    - 3d.1. Storyboard
    - 3d.2. Line Drawing Animation
    - 3d.3. Drawing Mouth Shapes
    - 3d.4. Things to Remember
4. Summary
5. Video
6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character/drawing-mouth-shapes>

Scene: 01	Frames: 51-75	Production: D'source mother's roses_lip_sync	Page Number: 03
Field:	Background:	Animator: Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Flt	Camera
	S	1								
		2								
		3								
		4								
eye blink	close	5								
		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
		14								
		15								
		16								
		17								
		18								
		19								
		20								
		21								
A	A	22								
		23								
	a	24								
		25								

Scene: 01	Frames: 76-100	Production: D'source mother's roses_lip_sync	Page Number: 04
Field:	Background:	Animator: Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Flt	Camera
	R	1								
		2								
		3								
		4								
Red	D	5								
		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
Rose	Oo	14								
		15								
		16								
		17								
	Z	18								
		19								
		20								
	close	21								
		22								
		23								
		24								
		25								

Scene: 01	Frames: 101-125	Production: D'source mother's roses_lip_sync	Page Number: 05
Field:	Background:	Animator: Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Flt	Camera
		1								
		2								
		3								
		4								
		5								
eye blink		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
		14								
		15								
		16								
		17								
		18								
		19								
		20								
		21								
		22								
		23								
		24								
		25								

Scene: 01	Frames: 126-150	Production: D'source mother's roses_lip_sync	Page Number: 06
Field:	Background:	Animator: Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Flt	Camera
		1								
		2								
		3								
		4								
		5								
		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
		14								
		15								
		16								
		17								
		18								
		19								
		20								
		21								
		22								
		23								
		24								
		25								

Scene: 01	Frames: 151-175	Production: D'source mother's roses_lip_sync	Page Number: 07
Field:	Background:	Animator: Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Flt	Camera
		1								
		2								
		3								
		4								
		5								
		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
		14								
		15								
		16								
		17								
		18								
		19								
		20								
		21								
		22								
		23								
		24								
		25								

Scene: 01	Frames: 176-200	Production: D'source mother's roses_lip_sync	Page Number: 08
Field:	Background:	Animator: Samidha	

Action	Sound	#	OVL	1	2	3	4	BG	Flt	Camera
		1								
		2								
		3								
		4								
		5								
		6								
		7								
		8								
		9								
		10								
		11								
		12								
		13								
		14								
		15								
		16								
		17								
		18								
		19								
		20								
		21								
		22								
		23								
		24								
		25								

1. Introduction
2. Process
3. Example
  - 3a. Recording the Dialogue
  - 3b. Analyzing the Dialogue
  - 3c. Mouth Chart
  - 3d. Animating Character
    - 3d.1. Storyboard
    - 3d.2. Line Drawing Animation
    - 3d.3. Drawing Mouth Shapes
    - 3d.4. Things to Remember
4. Summary
5. Video
6. Contact Details







Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character/things-remember>

### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

##### 3d.1. Storyboard

##### 3d.2. Line Drawing Animation

##### 3d.3. Drawing Mouth Shapes

##### 3d.4. Things to Remember

### 4. Summary

### 5. Video

### 6. Contact Details

## Things to Remember

Important things to remember while drawing the Mouth Shapes:

- Anticipation
- Sound delay
- Expressions and exaggeration
- Check the synchronization

### Anticipation:

This is a basic principle of animation, which makes it more realistic and believable. Anticipation is used to prepare the audience for the up coming action. Keeping anticipation in mind, we open the mouth of the character before it starts speaking.

### Sound Delay:

Though mouth shapes are already assigned in the exposure sheet based on phonetic syllables, we need to consider sound delay also. If you carefully observe in a mirror while speaking, when we say AAA... the mouth opens but you actually hear the sound after fraction of seconds' delay. That is why few mouth shapes start one or two frames before the actual sound is heard.

### Expressions and Exaggeration:

While doing lip sync, we have to consider the expressions and angles of the face. To create a dramatic effect in the acting of the character, we need to exaggerate the expressions in some frames.

For example, while saying 'mother's roses', the girl character in the video opens her mouth wide open and tilts her face a little backwards.

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/example/animating-character/things-remember>

### 1. Introduction

### 2. Process

### 3. Example

#### 3a. Recording the Dialogue

#### 3b. Analyzing the Dialogue

#### 3c. Mouth Chart

#### 3d. Animating Character

##### 3d.1. Storyboard

##### 3d.2. Line Drawing Animation

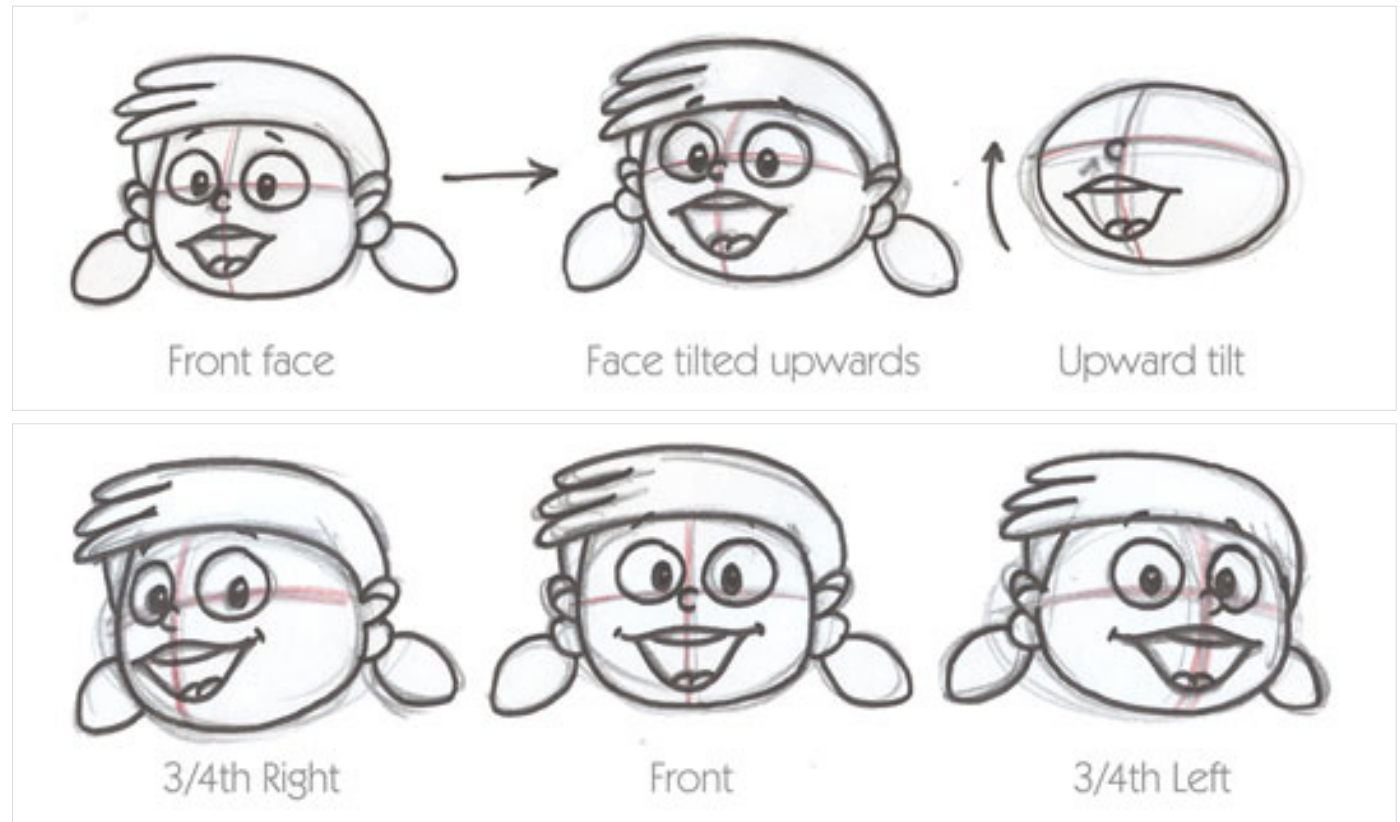
##### 3d.3. Drawing Mouth Shapes

##### 3d.4. Things to Remember

### 4. Summary

### 5. Video

### 6. Contact Details



Considering all conditions mentioned above, some times we need to adjust the timings for the mouth shapes while drawing. In this way all mouth shapes from closed or open and extreme poses are drawn.

#### Check the Synchronization:

While doing this, keep checking the animation by playing it forward and then backwards with sound. Add in-between mouth shapes only if needed, otherwise drawing too many in-between frames will give a chattering effect.

Once all the mouth shapes are drawn with sync, clean up and coloring of all the drawings is done. The animation with lip sync is done!

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/summary>

## Summary

Try lip sync animation on your own!

- Design a character you wish to do lip sync for.
- Record your favorite dialogue.
- Break it down in to its phonetic syllables.
- Count the number of frames required to utter a specific syllable, and mark them in exposure sheet.
- Design a character suitable to deliver the dialogue.
- Complete the line drawing animation and draw mouth shapes as marked in exposure sheet.
- Do not forget to consider sound delay, anticipation, expression and exaggeration.
- Check the accuracy of sync by playing it forward and backwards.
- Complete the cleanup of the drawings and color them.
- And your own animation with lip sync is ready!



1. Introduction
2. Process
3. Example
4. Summary
5. Video
6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

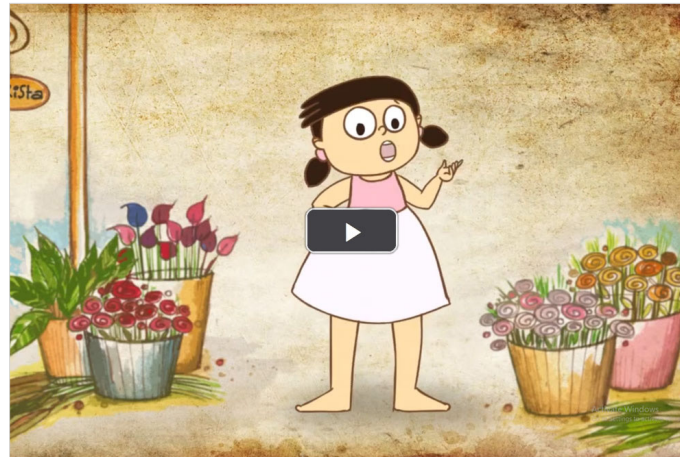
Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

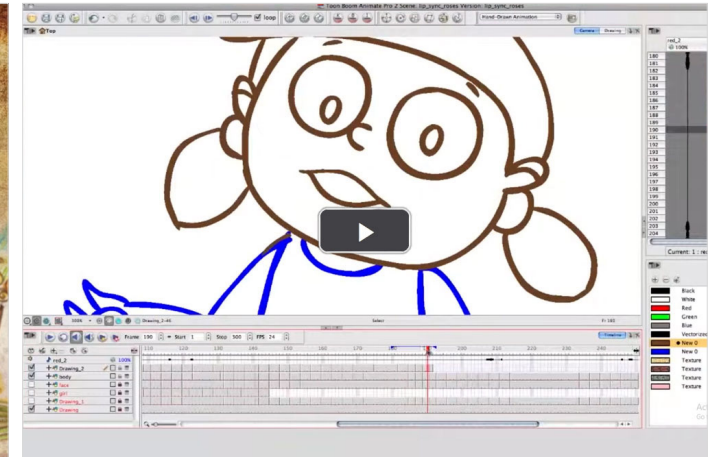
Source:

<https://www.dsource.in/course/lip-sync-animation/video>

## Video



Lip Sync Animation



The Making of Lip Sync Animation

1. Introduction
2. Process
3. Example
4. Summary
5. Video
6. Contact Details

Design Course

## Lip Sync in Animation

Making the Character Talk

by

Prof. Phani Tetali and Samidha Gunjal

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/lip-sync-animation/contact-details>

## Contact Details

This documentation for the course was done by Samidha Gunjal, IDC, IIT Bombay.

You can get in touch with her at [gdamisa\[at\]gmail.com](mailto:gdamisa[at]gmail.com)

You can write to the following address regarding suggestions and clarifications:

### Helpdesk Details:

Co-ordinator

Project e-kalpa

Industrial Design Centre

IIT Bombay

Powai

Mumbai 4000 076

India

Phone: 091-22-2159 6805/ 091-22-2576 7802

Email: [dsource.in\[at\]gmail.com](mailto:dsource.in[at]gmail.com)

1. Introduction

2. Process

3. Example

4. Summary

5. Video

6. Contact Details