DRAWINGS

FIG. 1

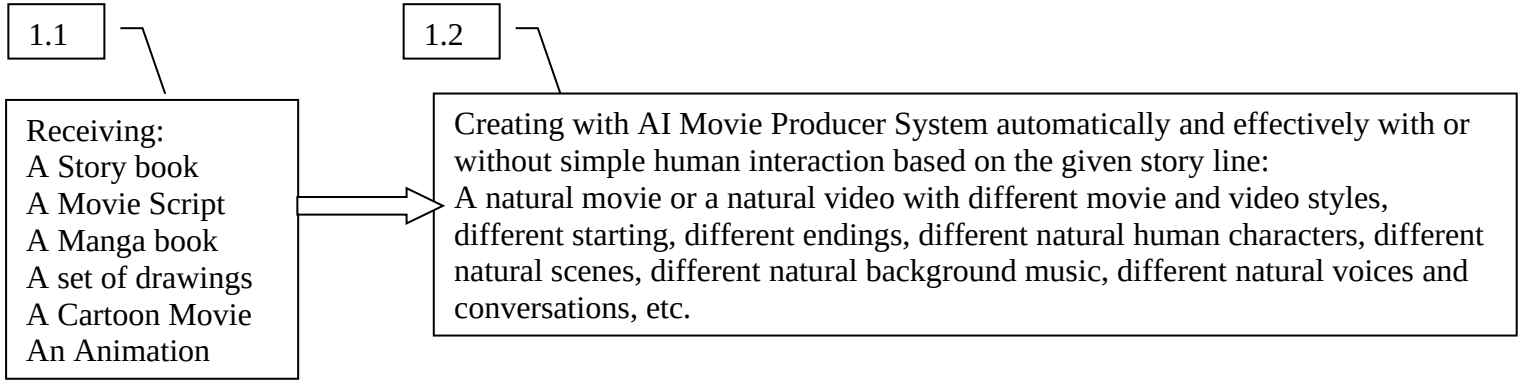


FIG. 2

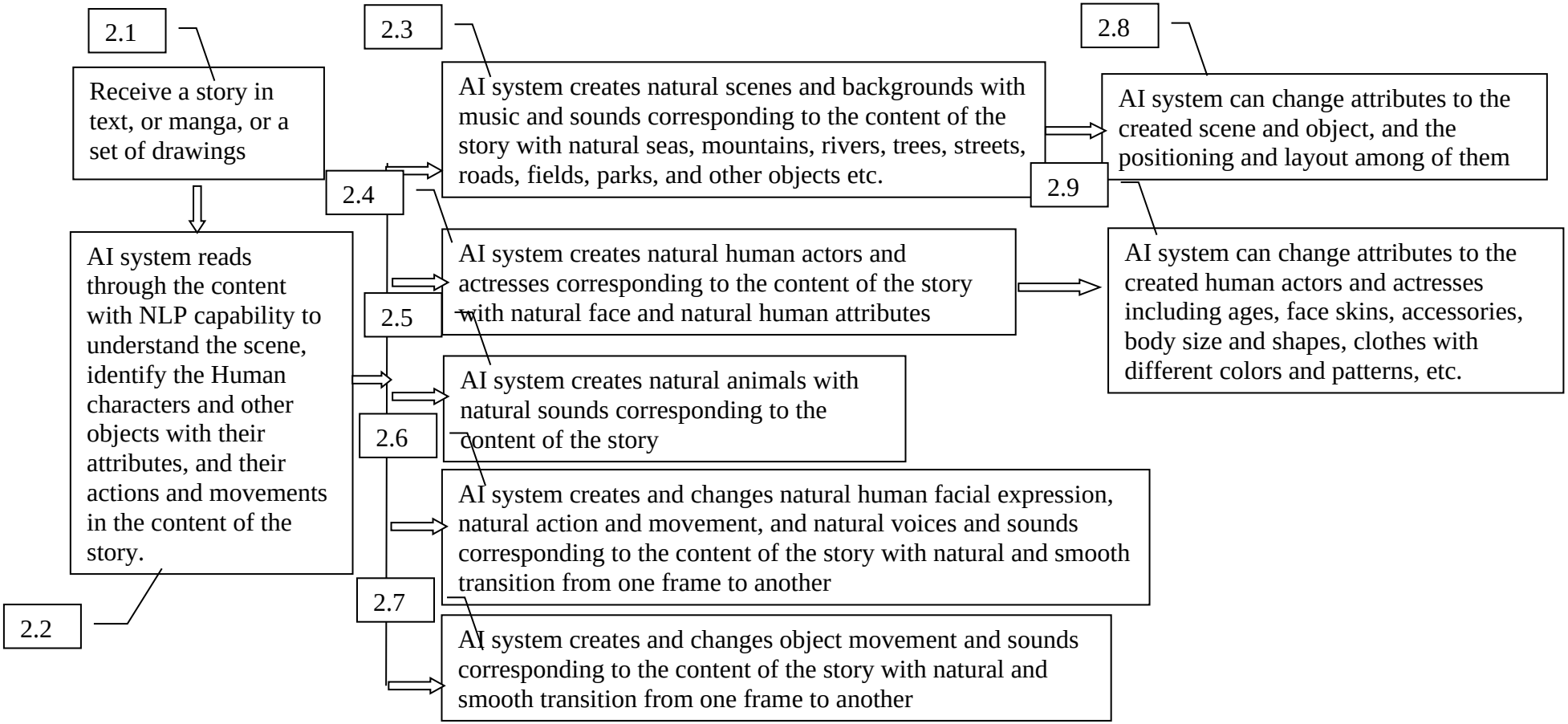

2.1
Receive a story in text, or manga, or a set of drawings
2.2
AI system reads through the content with NLP capability to understand the scene, identify the Human characters and other objects with their attributes, and their actions and movements in the content of the story.
2.3
AI system creates natural scenes and backgrounds with music and sounds corresponding to the content of the story with natural seas, mountains, rivers, trees, streets, roads, fields, parks, and other objects etc.
2.4
AI system creates natural human actors and actresses corresponding to the content of the story with natural face and natural human attributes
2.5
AI system creates natural animals with natural sounds corresponding to the content of the story
2.6
AI system creates and changes natural human facial expression, natural action and movement, and natural voices and sounds corresponding to the content of the story with natural and smooth transition from one frame to another
2.7
AI system creates and changes object movement and sounds corresponding to the content of the story with natural and smooth transition from one frame to another
2.8
AI system can change attributes to the created scene and object, and the positioning and layout among of them
2.9
AI system can change attributes to the created human actors and actresses including ages, face skins, accessories, body size and shapes, clothes with different colors and patterns, etc.

FIG. 3

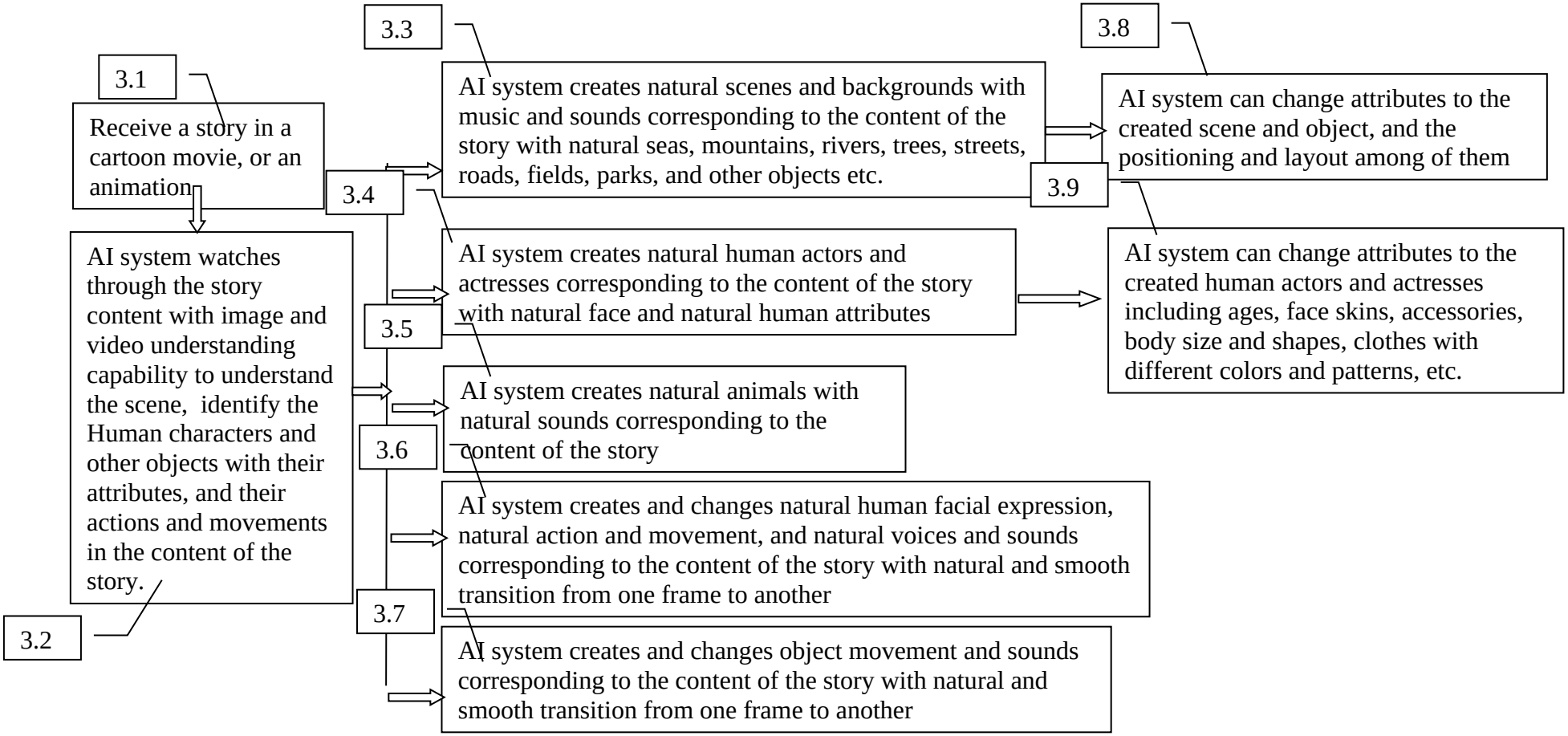

3.1
Receive a story in a cartoon movie, or an animation
3.2
AI system watches through the story content with image and video understanding capability to understand the scene, identify the Human characters and other objects with their attributes, and their actions and movements in the content of the story.
3.3
AI system creates natural scenes and backgrounds with music and sounds corresponding to the content of the story with natural seas, mountains, rivers, trees, streets, roads, fields, parks, and other objects etc.
3.4
AI system creates natural human actors and actresses corresponding to the content of the story with natural face and natural human attributes
3.5
AI system creates natural animals with natural sounds corresponding to the content of the story
3.6
AI system creates and changes natural human facial expression, natural action and movement, and natural voices and sounds corresponding to the content of the story with natural and smooth transition from one frame to another
3.7
AI system creates and changes object movement and sounds corresponding to the content of the story with natural and smooth transition from one frame to another
3.8
AI system can change attributes to the created scene and object, and the positioning and layout among of them
3.9
AI system can change attributes to the created human actors and actresses including ages, face skins, accessories, body size and shapes, clothes with different colors and patterns, etc.

FIG. 4

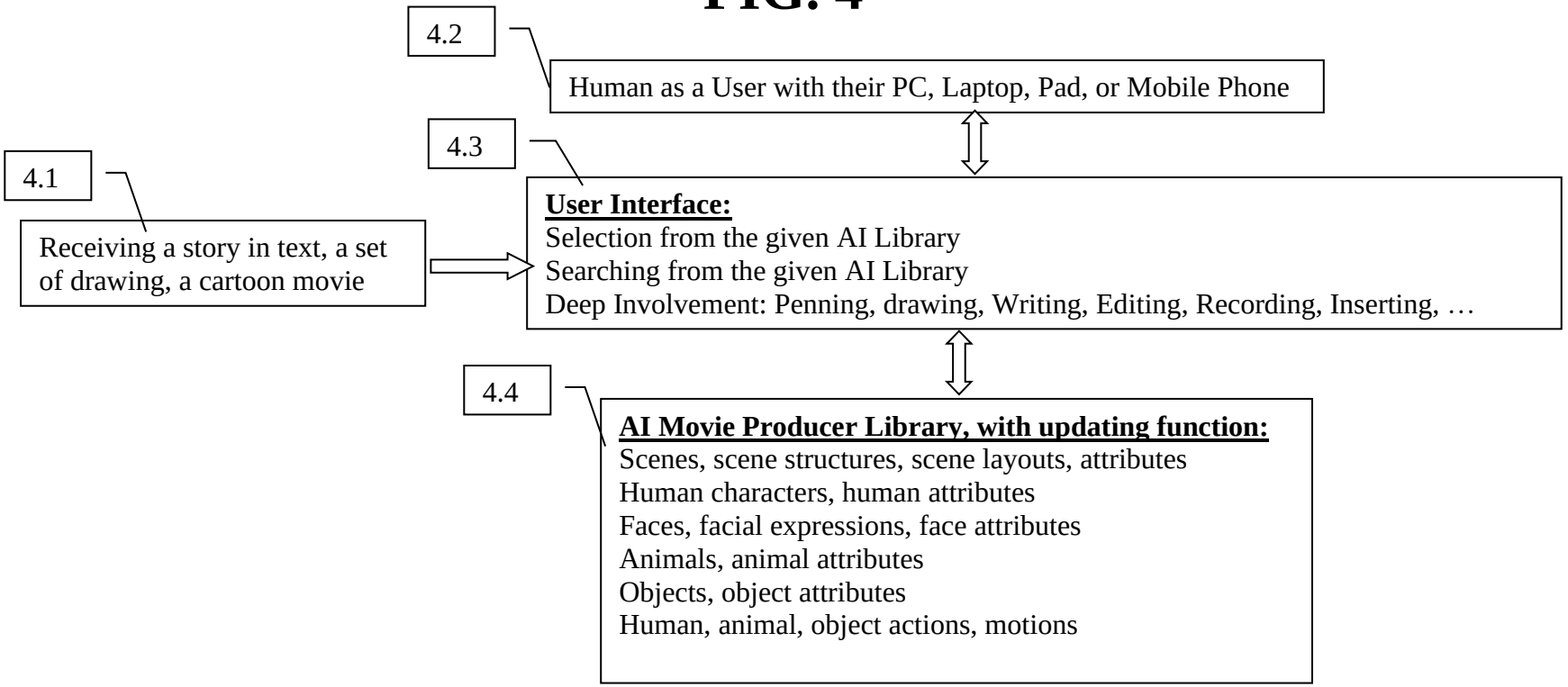

4.2
Human as a User with their PC, Laptop, Pad, or Mobile Phone
4.3
4.1
Receiving a story in text, a set of drawing, a cartoon movie
User Interface:
Selection from the given AI Library
Searching from the given AI Library
Deep Involvement: Penning, drawing, Writing, Editing, Recording, Inserting, …
4.4
AI Movie Producer Library, with updating function:
Scenes, scene structures, scene layouts, attributes
Human characters, human attributes
Faces, facial expressions, face attributes
Animals, animal attributes
Objects, object attributes
Human, animal, object actions, motions

FIG. 5

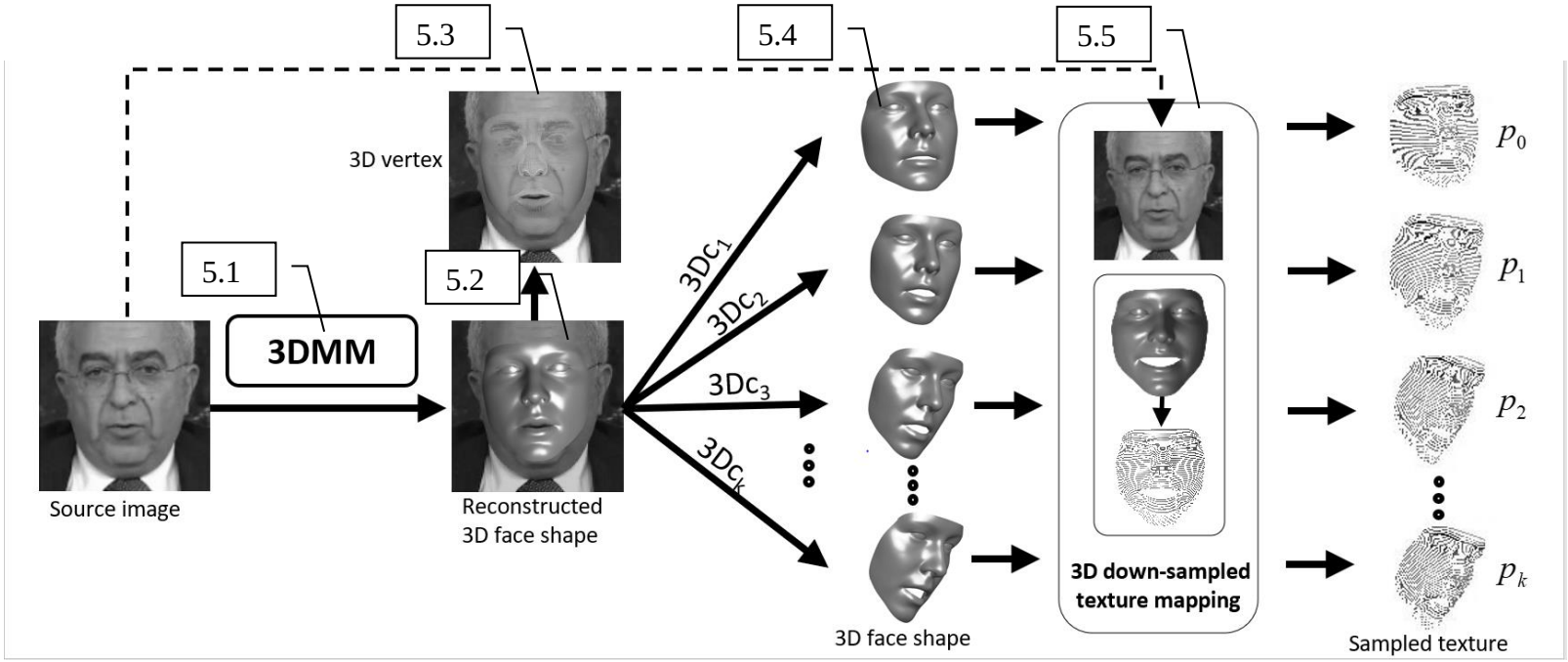
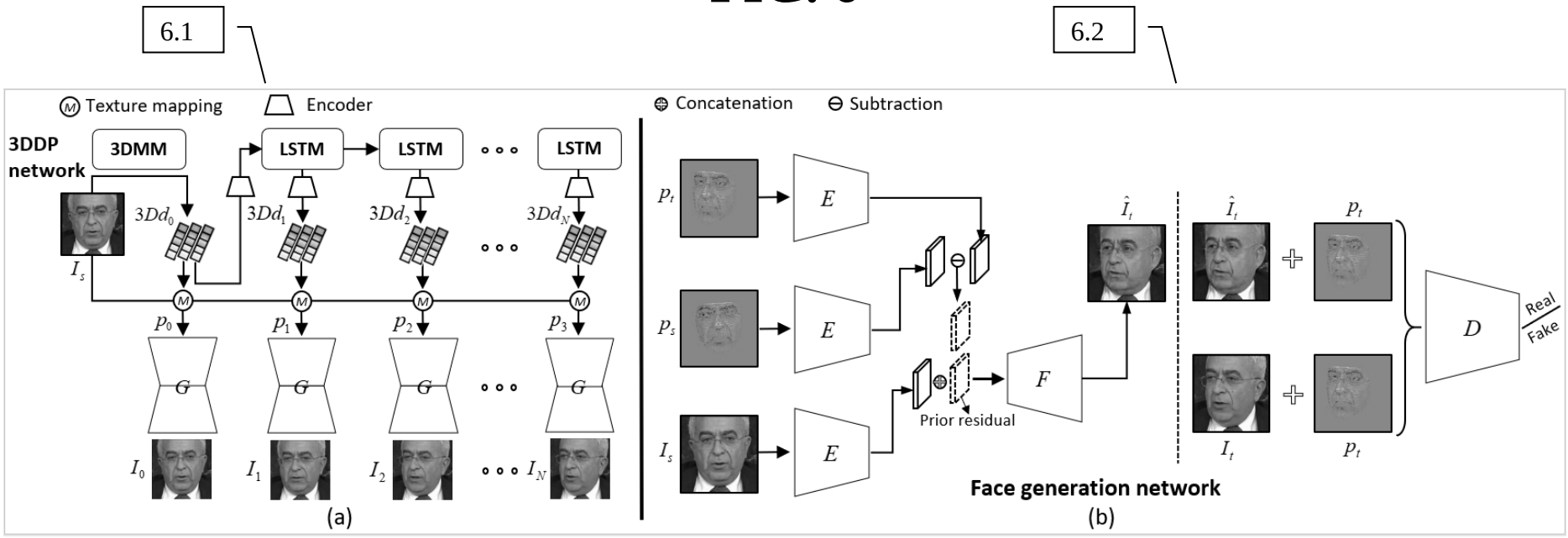

5.3
5.4
5.5
3D vertex
5.1
5.2
3DMM
3Dc1
3Dc2
3Dc3
3Dck
Source image
Reconstructed
3D face shape
3D face shape
3D down-sampled
texture mapping
p0
p1
p2
pk
Sampled texture

FIG. 6


6.1
6.2
Texture mapping
Encoder
Concatenation
Subtraction
3DDP network
3DMM
LSTM
LSTM
LSTM
$3Dd_0$
$3Dd_1$
$3Dd_2$
$3Dd_N$
I_s
p_0
p_1
p_2
p_3
G
I_0
I_1
I_2
I_N
(a)
p_t
p_s
I_s
E
F
Prior residual
$\hat{I}_t$
I_t
D
Real
Fake
Face generation network
(b)