High-Level Main
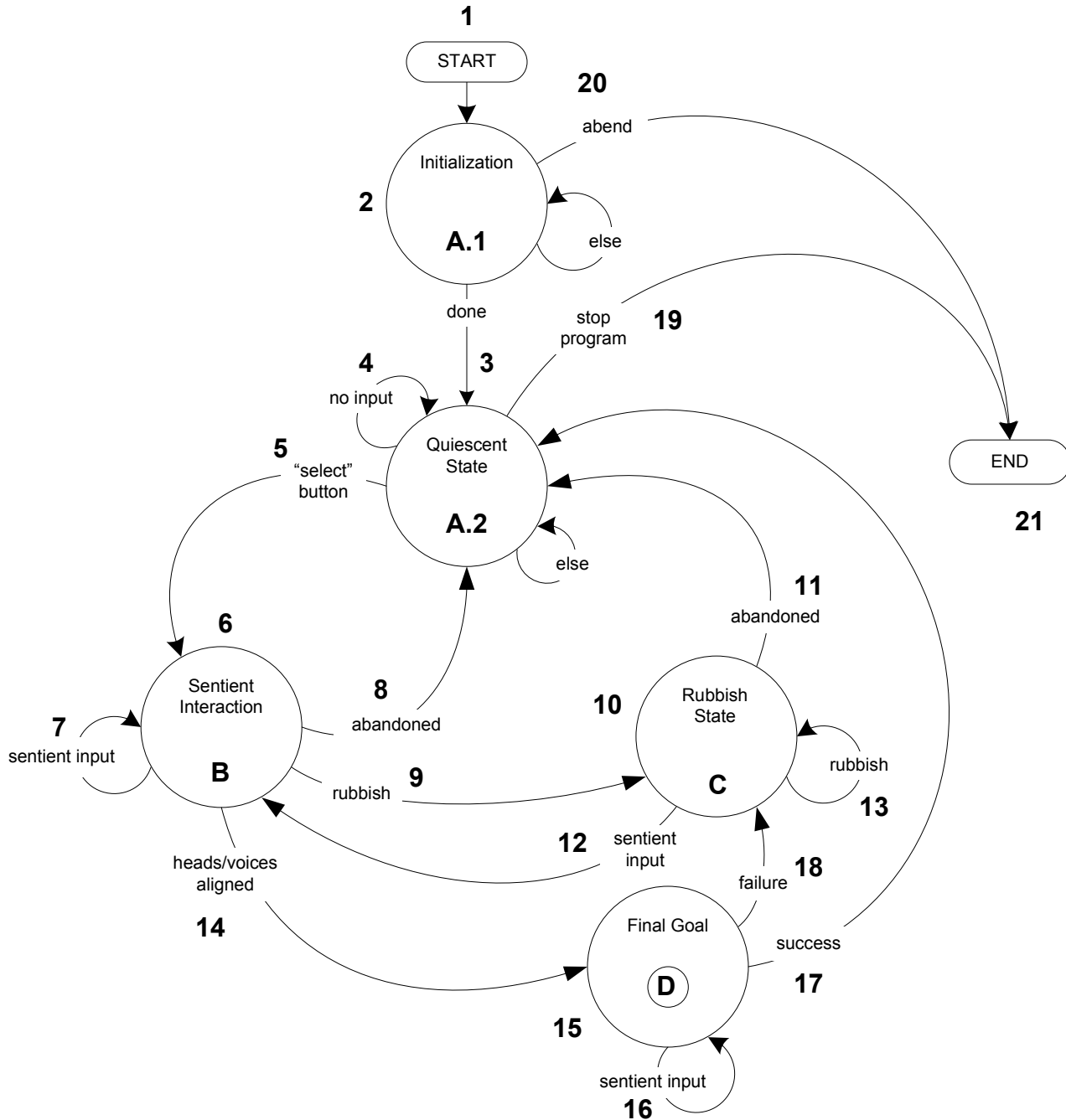
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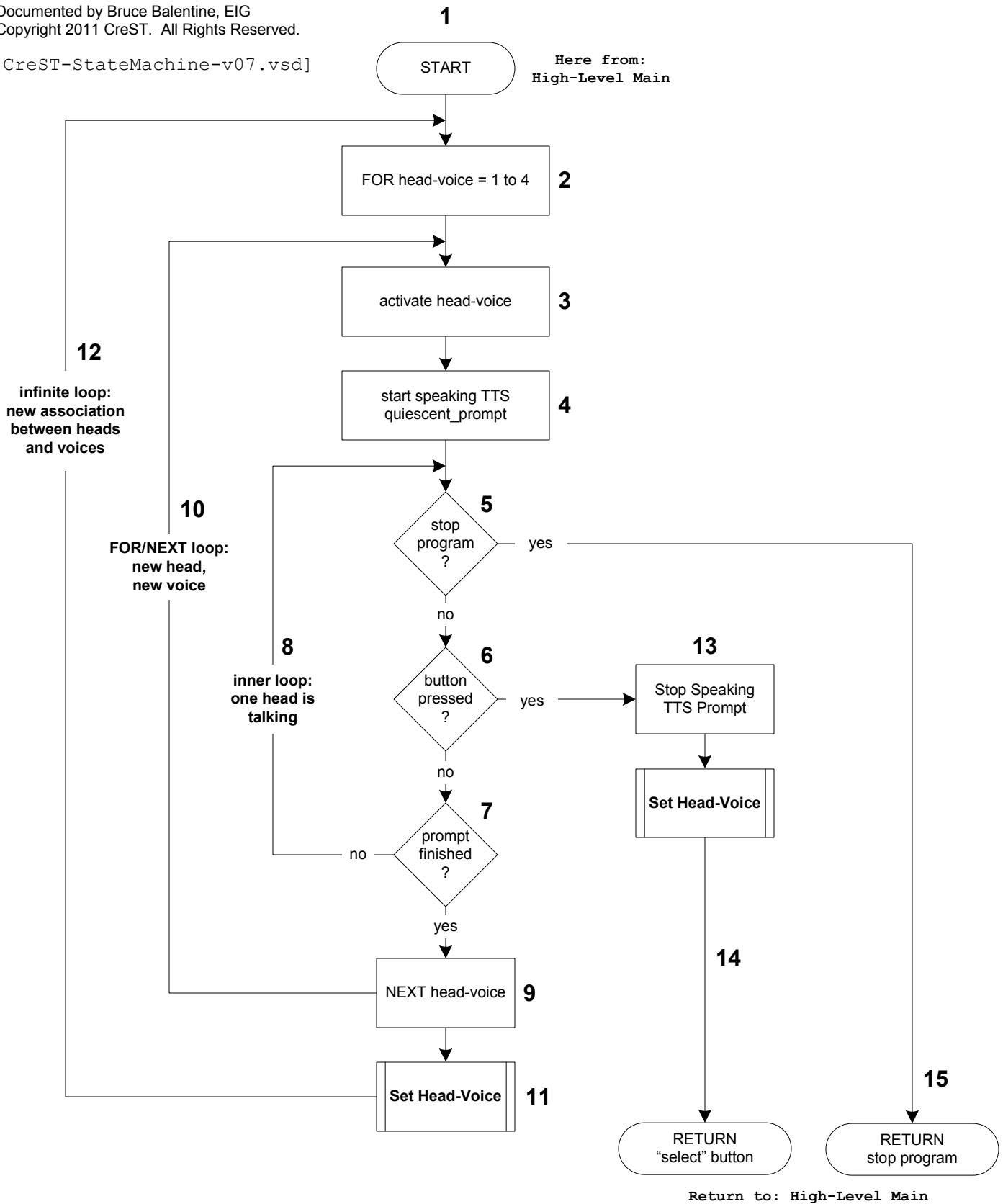
`[CreST-StateMachine-v07.vsd]`

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A.2 Quiescent State

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[CreST-StateMachine-v07.vsd]

1

START

Here from:
High-Level Main

2
FOR head-voice = 1 to 4

3
activate head-voice

4
start speaking TTS
quiescent_prompt

12

infinite loop:
new association
between heads
and voices

10

FOR/NEXT loop:
new head,
new voice

8

inner loop:
one head is
talking

5
stop
program
?

yes

no

6
button
pressed
?

yes

no

7
prompt
finished
?

no

yes

13
Stop Speaking
TTS Prompt

Set Head-Voice

14

9
NEXT head-voice

Set Head-Voice **11**

15

RETURN
"select" button

RETURN
stop program

Return to: High-Level Main

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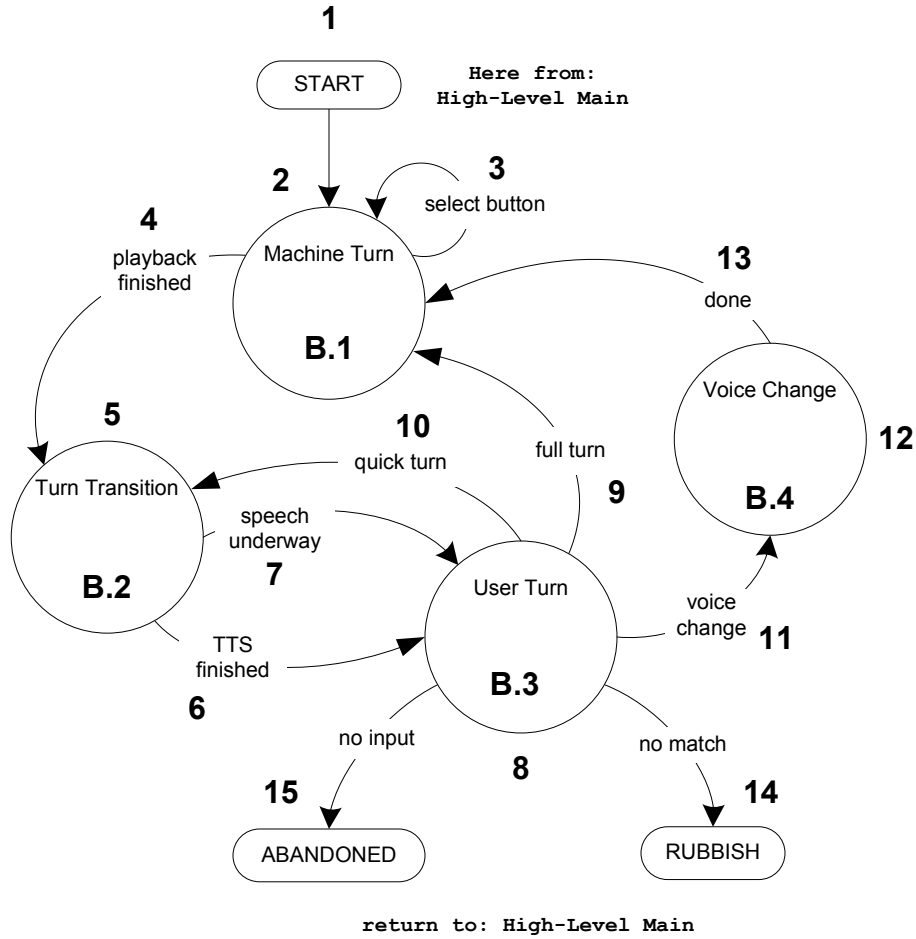
B. Sentient Interaction

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`[CreST-StateMachine-v07.vsd]`

1

START

**Here from:
High-Level Main**

2

3

select button

4

playback
finished

Machine Turn

B.1

13

done

5

10

quick turn

full turn

Voice Change

12

Turn Transition

B.2

speech
underway

7

User Turn

9

B.4

6

TTS
finished

B.3

voice
change

11

15

no input

8

no match

14

ABANDONED

RUBBISH

return to: High-Level Main

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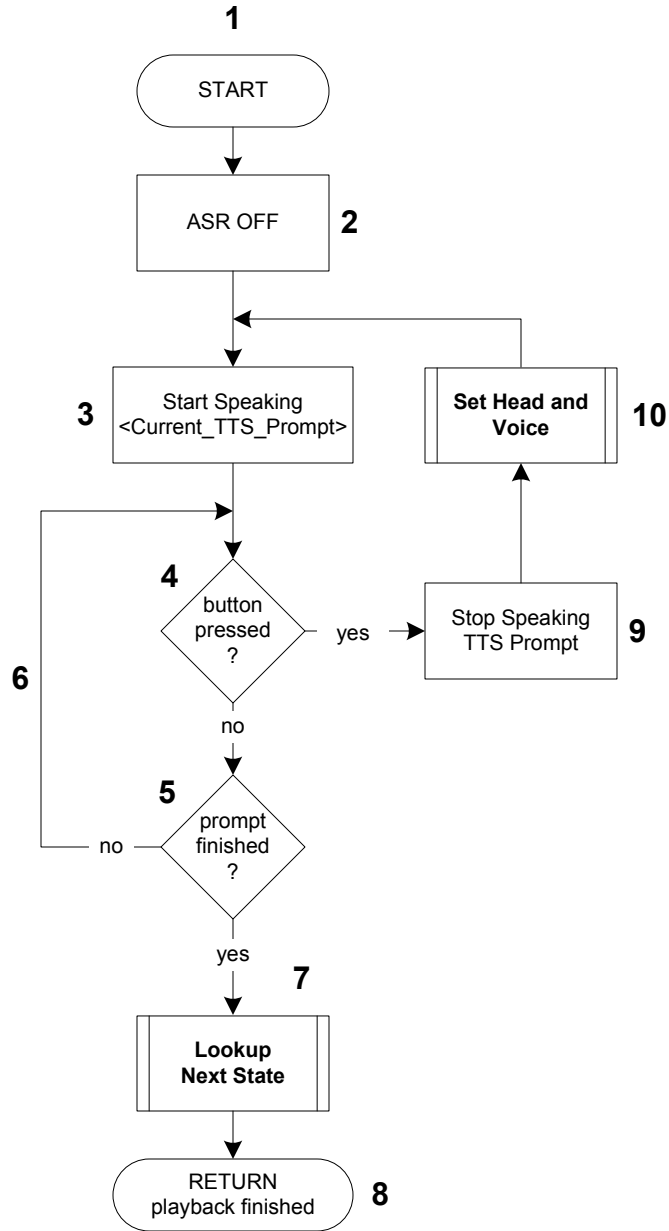This Draft: 1 December, 2011

B.1 Machine Turn

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[CreST-StateMachine-v07.vsd]

Here from:
B. Sentient Interaction

1

START

ASR OFF **2**

3 Start Speaking
<Current_TTS_Prompt>

Set Head and Voice **10**

4 button pressed ? — yes → Stop Speaking TTS Prompt **9**

6

no

5 prompt finished ?

no

yes

7 **Lookup Next State**

RETURN playback finished **8**

Return to:
B. Sentient Interaction

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B.2 Turn Transition

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[CreST-StateMachine-v07.vsd]

Here from:
B. Sentient Interaction
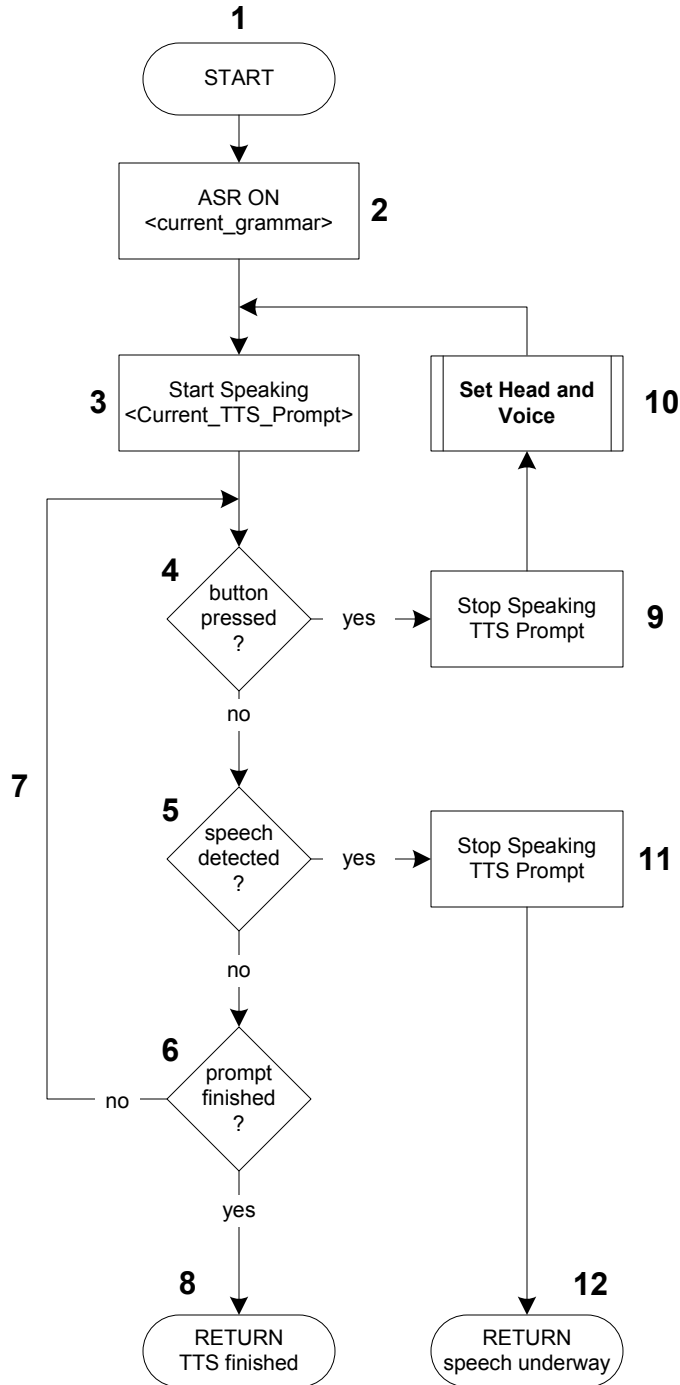
1

START

2 ASR ON
<current_grammar>

3 Start Speaking
<Current_TTS_Prompt>

10 **Set Head and Voice**

4 button pressed ?

yes

9 Stop Speaking TTS Prompt

no

7

5 speech detected ?

yes

11 Stop Speaking TTS Prompt

no

6 prompt finished ?

no

yes

8 RETURN
TTS finished

12 RETURN
speech underway

Return to:
B. Sentient Interaction

B.3 User Turn

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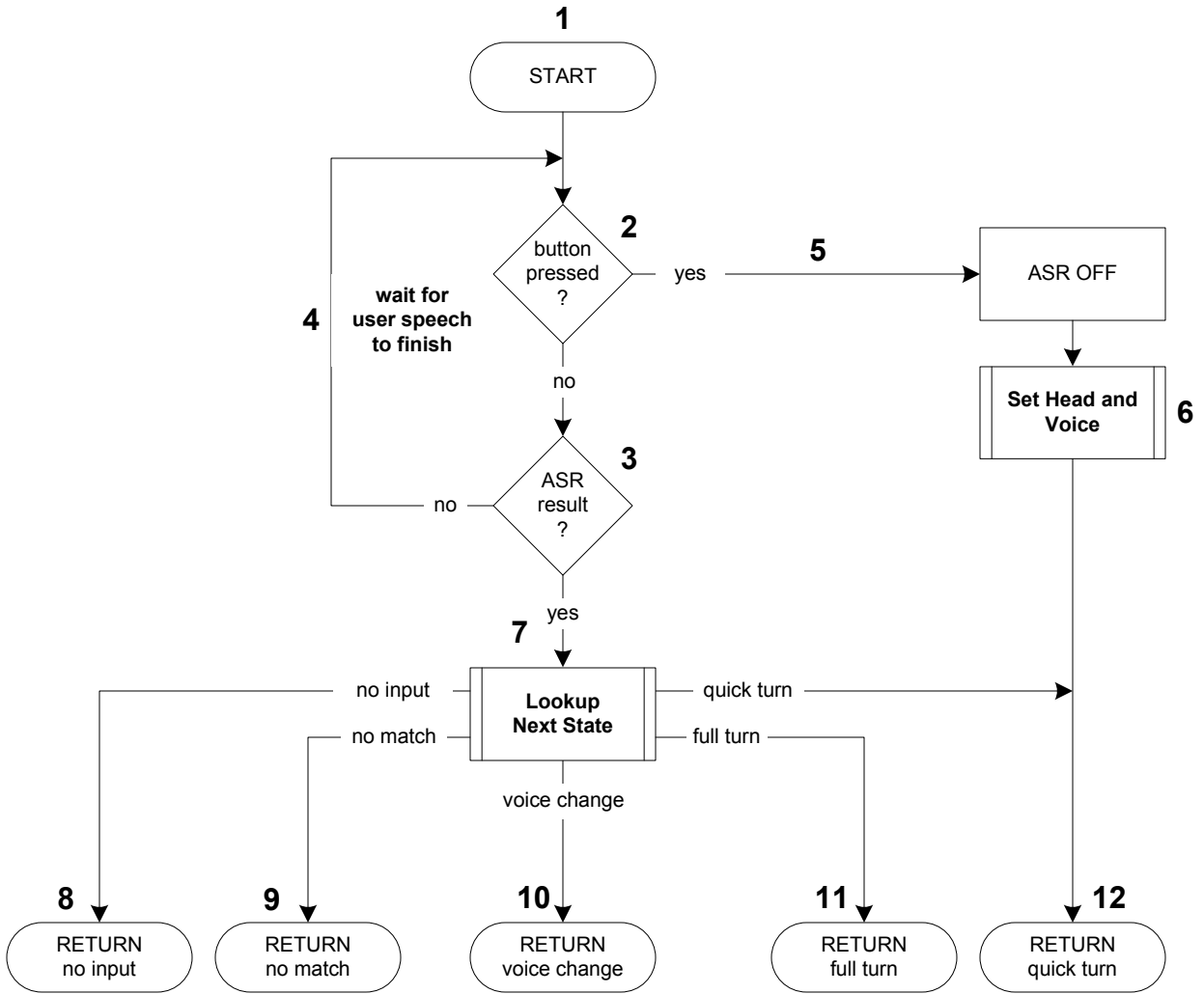[CreST-StateMachine-v07.vsd]

Here from:
B. Sentient Interaction

1
START

2
button pressed ?

5
yes → ASR OFF

4
wait for user speech to finish

no

3
ASR result ?

no

yes

6
Set Head and Voice

7
Lookup Next State

no input

no match

quick turn

full turn

voice change

8
RETURN no input

9
RETURN no match

10
RETURN voice change

11
RETURN full turn

12
RETURN quick turn

Return to:
B. Sentient Interaction

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Set Head-Voice

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[CreST-StateMachine-v07.vsd]

Here from:
B.1, B.2, or B.3

START

Deactivate all
head visuals

quiescent
or selected
?

quiescent

selected

which button
was pressed?

1

4

**shuffle association
between
heads and voices**

2

3

Activate Head 1
Visuals

Activate Head 3
Visuals

Activate Head 2
Visuals

Activate Head 4
Visuals

**Set Current
Voice**

RETURN

Return to calling routine:
B.1, B.2, or B.3

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Lookup Next State

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[CreST-StateMachine-v07.vsd]

START **1**

State Table
<current_index> **2**
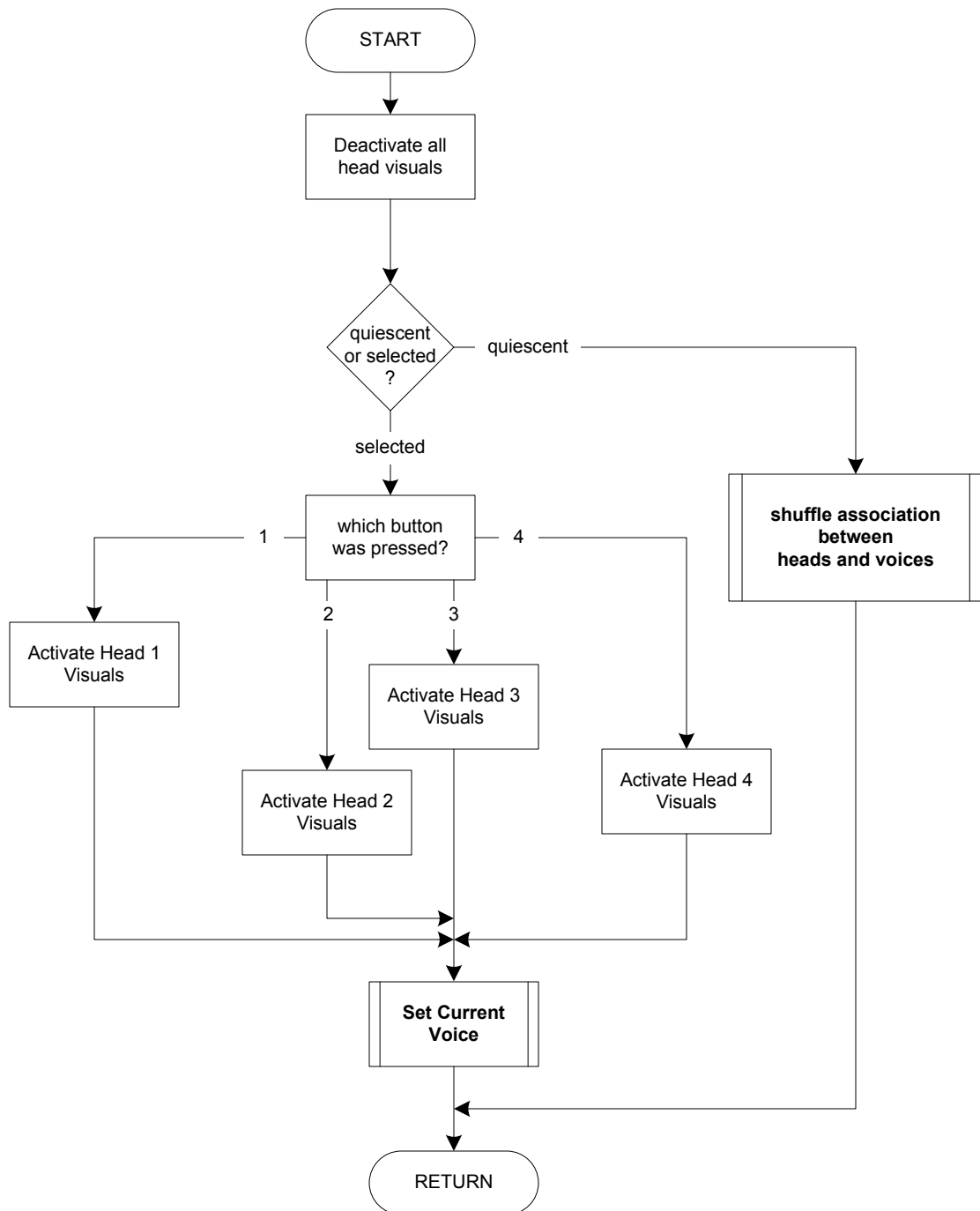
3 current state start ?

yes

no

7 confident recognition ?

no

4 current state B.1 ?

no

yes

10
ASR
error condition

8 Lookup
Recognized Tag

timeout with no
speech detected

9 voice change ?

no

5

11 else

yes

SET PARAMETERS
next_turn
current_index   /* from next index */
current_grammar
current_TTS_prompt
voice_parameters

6 next turn ?

quick

full

13
RETURN
no input

16
RETURN
quick turn

12
RETURN
no match

14
RETURN
voice change

15
RETURN
full turn

Return to: B. Sentient Interaction

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C. Rubbish

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[CreST-StateMachine-v07.vsd]

1

START

**Here from:
High-Level Main**

2

3
select button

4

playback
finished

Machine Turn

B.1

13

done

Voice Change

5

10

full turn

B.4

12

Turn Transition

no match

9

B.2

speech
underway

7

User Turn

11

voice
change

TTS
finished

B.3

6

no input

quick turn

8

15

ABANDONED

14

SENTIENT

return to: High-Level Main

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