

Data Dictionary
<u>Abbrev.</u>
<u>DFD_0</u>
QOL
SEC
INV
ENV
B2Q
Q2B
B2S
S2B
B2I
I2B
B2E
E2B
UTL MGR
U_IN
U_OUT
U2Q
Q2U
U2S
S2U
U2I
I2U
U2E
E2U
D_OUT
D_IN
D2Q
Q2D
D2S
S2D
D2I
I2D
D2E
E2D
<u>3.4.5.1</u>
Q2V
V2Q
V2D
D2V
Q2S
S2Q
Q2P
P2Q
P2S
S2P
D2S
S2D
V2B
B2V
SC2B

B2SC
B2P
P2B
<u>3.4.5.3</u>
B2S
S2B
B2T
T2B
S2T
T2S
T2HC
S2HC
HC2S
S2LC
LC2S
HC2D
D2HC
L2D
D2L
<u>3.4.5.3.2</u>
T2HC
A2HC
HC2A
B2HC
HC2B
BR2HC
S2HC
<u>3.4.5.3.2.1</u>
BoilerIsOff
NeedNoHeat
TurnBoilerOff
A/CIsOff
NeedNoA/C
NeedHeat
TurnBoilerOn
BoilerOn
NeedA/C
TurnOnA/c
A/CisOn
<u>3.4.5.3.3</u>
LC2OL
OL2LC
LC2IL
IL2LC
OL2SD
SD2OL
IL2SD
SD2IL

<u>3.4.5.3.3.1</u>
NeedOutLight
TurnOnOut
OutsideLightsOn
NeedInsideLight
TurnOnInside
InsideLightsOn
NotNeedInLights
TurnOffIn
NotNeedOutLights
TurnOffOut
OutsideLightsOff
InsideLightsOff
<u>3.4.5.3.4.1</u>
B2T
T2B
T2CT
CT2T
T2TZ
TZ2T
CT2LC
CT2HC
<u>3.4.5.3.4.1</u>
WhatIsCurrentTime
CheckCPUTime
CurrentTime
ReturnCurrentTime
WhatIsTimeZone
CheckTimeZone
currentTimeZone
ReturnCurrentTimeZone
<u>DFD 3.4.5.4</u>
PRE2PRO
PRO2PRE
SENS2VR
VR2PRO
PRO2VR
VR2B
B2VR
VR2A
A2VR
A2B
B2A
A2PRO
PRO2A
A2M
M2A

PRO2M
M2PRO

<u>3.4.5.2</u>
V2S
S2V
V2D
D2V
Q2V
V2Q
B2V
V2B
V2P
P2V
V2P
P2V
V2I
I2V
V2P
P2V
V2F
F2V
V2SR
SR2V
P2I
I2P
F2SR
SR2F
F2I
I2F
F2R
R2F
P2R
R2P
R2S
S2R
B2SR
SR2B
B2P
P2B
<u>3.4.5.2.1</u>
Occupied state
Voice detected
Process voice
Response Generated
Not Authorized
Authorized
Make forward decision
Start Timer
Timer expired
Command Approval
Generate System Respon

<u>3.4.5.2.2</u>
V2STT
STT2V
P2STT
STT2P
STT2S
S2STT
P2S
S2P
B2S
S2B
I2S
S2I
<u>3.4.5.2.2.1</u>
Voice detected
Speech To Text
Voice processed
Sending to Interpretation
<u>3.4.5.2.3</u>
C2I
I2C
I2E
E2I
E2C
C2E
E2F
F2E
C2P
P2C
<u>3.4.5.2.3.1</u>
Command Found
Execute Interpretation
Command Accepted
Make Forward Decision
Request Authorization
<u>3.4.5.2.4</u>
P2F
F2P
I2F
F2I
I2P
P2I
P2IC
IC2P
P2R
R2P
FA2I
I2FA
FA2S
S2FA
<u>3.4.5.2.4.1</u>
Voice detected
Speech To Text

Identifying Command Type
Command Approval
<u>3.4.5.2.5</u>
TTS2S
S2TTS
S2G
G2S
TTS2G
G2TTS
F2G
G2F
B2G
G2B
TTS2B
B2TTS
<u>3.4.5.2.5.1</u>
Received text
Text To Speech
Generating Response

Meaning**Smart House**

Quality of life

Security

Inventory

Environmental

Brain to Quality of life

Quality of life to brain

Brain to Security

Security to brain

Brain to Inventory

Inventory to Brain

Brain To Environmental

Environmental to Brain

Utilities Manager

Utilities in to Utilities Manager

Utilities Manager to Utilities

Utilities Manager to Quality of Life

Quality of life to Utilities Manager

Utilities Manager to Security

Security to Utilities Manager

Utilities Manager to Inventory

Inventory to Utilities Manager

Utilities Manager to Environmental

Environmental to Utilities Manager

Detector out to sensor data

Sensor data in to detector

Detector to quality of life

quality of life to detector

Detector to security

security to detector

detector to Inventory

Inventory to Detector

Detector to environmental

environmental to detector

Quality of life DFD

quality of life to voice

voice to quality of life

voice to detectors

detectors to voice

quality of life to scheduling

scheduling to quality of life

quality of life to profile

profile to quality of life

profile to scheduling

security to profile

detector data to scheduling

scheduling to detector data

voice to brain

brain to voice

scheduling to brain

brain to scheduling
brain to profile
profile to brain
<u>Scheduling DFD</u>
Brain to scheduling
scheduling to brain
Brain to time
time to brain
scheduling to time
time to scheduling
time to HVAC controller
Scheduling to HVAC Controller
HVAC controller to scheduling
scheduling to light controller
light controller to scheduling
HVAC to detectors
detectors to HVAC
Light controller to Detector
detector to Light Controller
<u>HVAC Controller DFD</u>
time to HVAC controller
a/c unit to HVAC controller
HVAC Controller to A/C unit
Boiler to HVAC Controller
HVAC Controller to Boiler
Brain to HVAC controller
Sensor data to HVAC controller
<u>HVAC Controller STD</u>
Boiler is currently Off
No Signal to turn heat on
Turn the boiler off
A/C is currently off
No signal to turn A/C on
Signal to turn heat on
Signal to turn the boiler on
Boiler is currently On
Signal that A/C needs to turn on
Signal to turn A/C on
A/C is currently running
<u>Light Controller DFD</u>
Light Controller to Outdoor lights
outdoor lights to Light controller
Light Controller to Inside Lights
Inside Lights to Light Controller
Outdoor light to sensor data
sensor data to Outdoor light
Inside light to sensor data
sensor data to Inside lights

Light Controller STD

Command for outside lights
 turns on outside lights
 outside lights are on
 Command for inside lights
 turns on inside lights
 inside lights are on
 command for no inside lights
 turns off inside lights
 inside lights are off
 command for no outside lights
 outside lights are off
 inside lights are off

Time DFD

Brain to time
 time to brain
 time to current time
 current time to time
 time to time zone
 time zone to time
 current time to light controller
 current time to HVAC controller

Time STD

Command to request current time
 Checks current time on cpu
 reports current time
 Returns the current time on the cpu
 command to request current time zone
 checks cpu current time zone
 reports current time zone
 returns the current time zone on cpu

Preferences to Profile
 Profile to Preferences
 Sensors to Voice Recognition
 Voice Recognition to Profile
 Profile to Voice Recognition
 Voice Recognition to Brain
 Brain to Voice Recognition
 Voice Recognition to Authentication
 Authentication to Voice Recognition
 Authentication to Brain
 Brain to Authentication
 Authentication to Profile
 Profile to Authentication
 Authentication to Media
 Media to Authentication

Profile to Media
Media to Profile

<u>Voice-DFD</u>
Voice to Scheduling
Scheduling to Voice
Voice to Detectors Data
Detectors Data to Voice
Quality of Life to Voice
Voice to Quality of Life
Brain to Voice
Voice to Brain
Voice to Profile
Profile to Voice
Voice to Processing
Processing to Voice
Voice to Interpretation
Interpretation to Voice
Voice to Processing
Processing to Voice
Voice to Forwarding
Forwarding to Voice
Voice to System Response
System Response to Voice
Processing to Interpretation
Interpretation to Processing
Forwarding to System Response
System Resonse to Forwarding
Forwarding to Interpretation
Interpretation to Forwarding
Forwarding to Requesting Authentication
Requesting Authentication to Fowarding
Profile to Request Authentication
Requesting Authentication to Profile
Requesting Authentication to Schedule
Scheduling to Request Authentication
Brain to System Response
System Resonse
Brain to Processing
Processing to Brain
<u>Voice-STD</u>
The system operates in the occupied state
The system has detected voice
The system processes voice
The system has generated a response
The user is not authorized
The user ist authorized
The system makes forward decision
The system starts timer between command content decide on whether ignoring content or not
The timer has expired and the content will be ignored
Command has been approved by the system
The system generates a response for the user

<u>Processing-DFD</u>
Voice to Speech To Text
Speech To Text to Voice
Processing to Speech To Text
Speech To Text to Processing
Speech To Text to Sending
Sending to Speech To Text
Processing to Sending
Sending to Processing
Brain to Sending
Sending to Brain
Interpretation to Sending
Sending to Interpretation
<u>Processing-STD</u>
The system has detected voice
The system translates voice into system language
The system has processed the voice into text
The system has sent the text to interpretation
<u>Interpretaion-DFD</u>
Check For Command to Interpretation
Interpretaion to Check For Command
Interpretaion to Execute Command
Execute Command to Interpretation
Execute command to Check For Command
Check For Command to Execute Command
Execute Command to Forwarding
Forwarding to Execute Command
Check For Command to Processing
Processing to Check For Command
<u>Processing-STD</u>
The system has found the command within its command list
The system executes interpretation related to the command
The system has accepted the command
The system makes forward decision
The system requests authorization of the user
<u>Forwarding-DFD</u>
time to HVAC controller
a/c unit to HVAC controller
HVAC Controller to A/C unit
Boiler to HVAC Controller
HVAC Controller to Boiler
Brain to HVAC controller
Sensor data to HVAC controller
Identifying Command Type to Processing Forwarding Request
Processing Forwarding Request to Requesting Authentication
Requesting Authentication to Processing Forwarding Request
Forwarding Approval to Identifying Command Type
Identifying Command Type to Forwarding Approval
Forwarding Approval to System Response
System Resonse to Forwarding Approval
<u>Forwarding-STD</u>
The system has detected voice
The system translates voice into system language

The system identifies command type
The system has approved the command
<u>System Resonse-DFD</u>
Text To Speech to System Response
System Response to Text To Speech
System Resonse to Generating Response
Generating Response to System Response
Text To Speech to Generating Response
Generating Response to Text To Speech
Forwarding to Generating Response
Generating Response to Forwarding
Brain to Generating Response
Generating Response to Brain
Text To Speech to Brain
Brain to Text To Speech
<u>System Response-STD</u>
The system has detected voice
The system translates text into voice
The system generates user response