

Activity Diagram - Command Flow

Activity Flow:

1. Receive Command Input

From user voice or text input

2. Parse Command

Extract device name, action, and parameter

3. Validate Command

Check if device and action are valid

4. Create Command Expression

Create DeviceCommandExpression object

5. Create Context

Create VoiceCommandContext

6. Interpret Command

Interpret and calculate confidence

7. Create Executor

Create CommandExecutorVisitor

8. Execute Command

Visit and execute the command

9. Get Device State

Retrieve current device state

10. Update Device State

Update based on action type

11. Save to Repository

Save command to history

12. Return Response

Return success or error response

13. Display Result

Show result to user

Decision Points:

- After Validation: If valid → Continue, If invalid → Return Error
- Action Type: ON/OFF, INCREASE/DECREASE, SET, DIM/BRIGHTEN, LOCK/UNLOCK