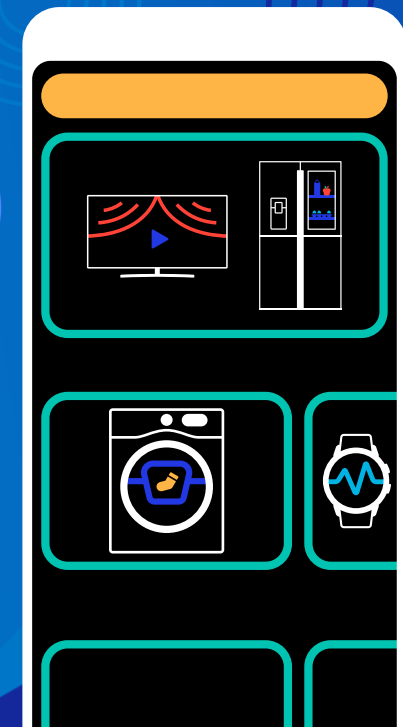


Bixby for Voice Developers Voice Lunch – Feb 2021

Roger Kibbe
Senior Developer Evangelist
Samsung
@rogerkibbe



Who Am I



@rogerkibbe

Roger Kibbe

Senior Developer Evangelist
Samsung

“Technology empowers and enables “

“Technology should get out of the way”

Dad - two teen daughters

San Francisco Bay Area Native

UC Berkeley Graduate – Go Bears!

What Is Bixby?

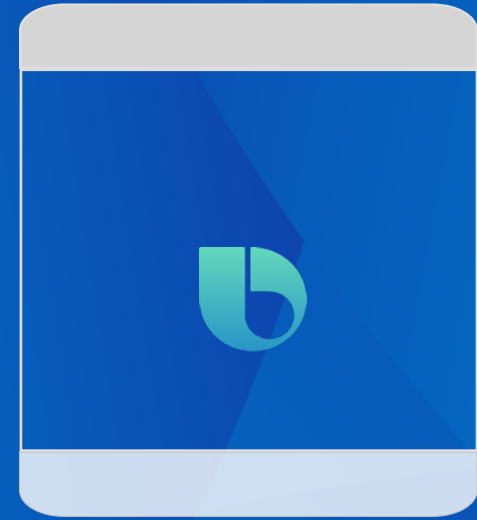
- Samsung's Voice/Conversational AI assistant
- Bixby 2 introduced November 2018
- Viv Labs – Acquired by Samsung 4 years ago
- Story starts with Siri
 - Dag Kittlaus and Adam Cheyer founded Siri
 - Sold to Apple - worked there for a couple years
 - Left to create a next generation conversational AI platform and founded Viv Labs

Bixby Reach

- #1 in Smartphones
- #1 in Televisions
- #1 in US Appliances
- 70% of US Households have a Samsung device
- Significant market share in portable speakers/automotive via Harman
- Bixby coming to all of the above and more . . .

Bixby Reach

100's millions of Bixby Enabled
Devices per Year



Bixby Development

Bixby Development Style



Traditional

- Imperative
- Code Driven
- “How to do”

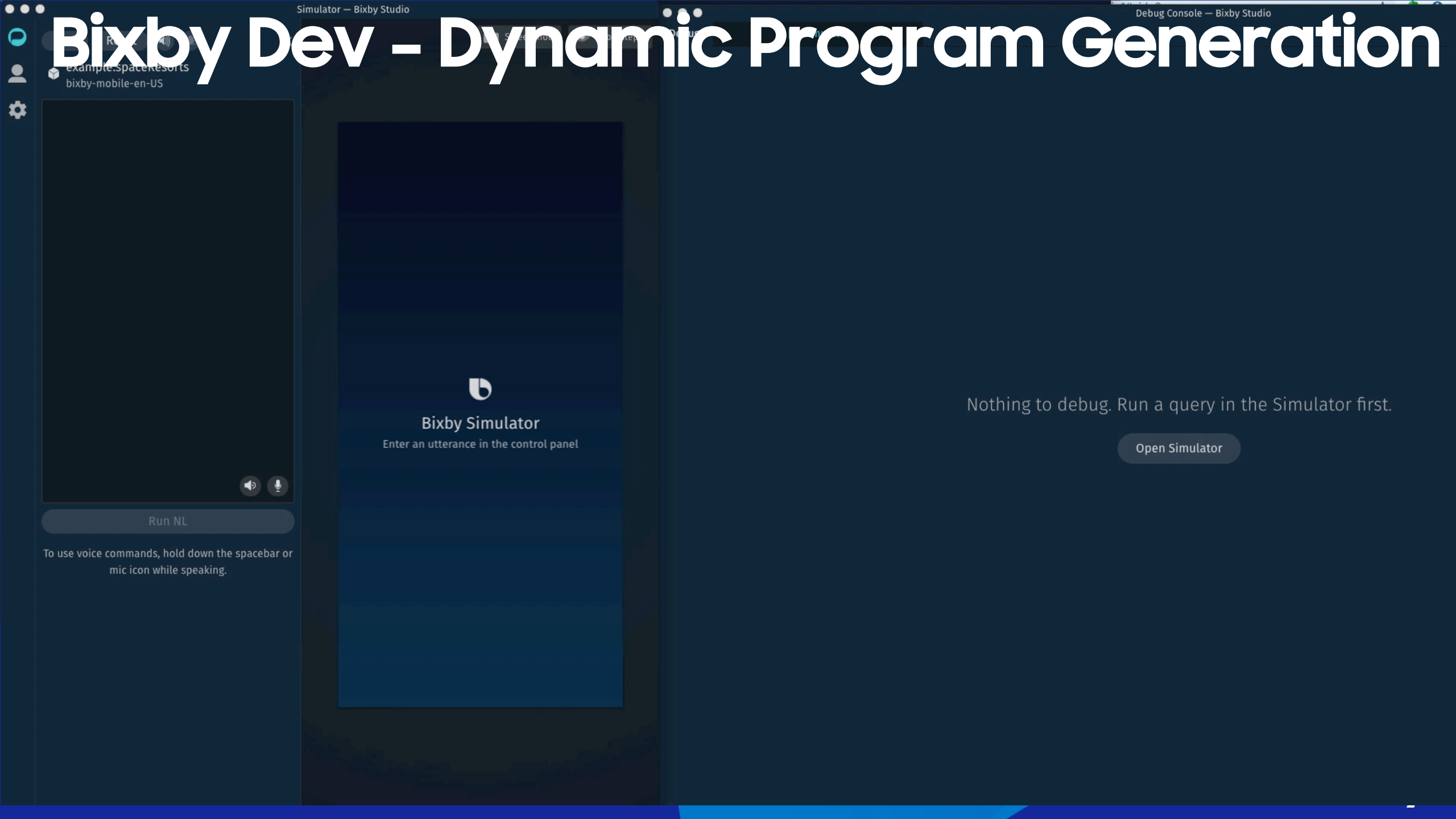


Bixby

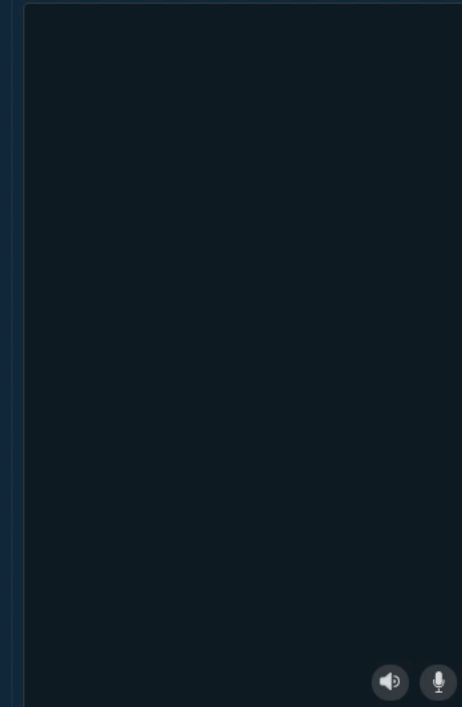
- Declarative/Opinionated
- Model Driven
- “What to do”

Bixby Development – AI Driven

- Bixby models are “compiled” into programs on the fly – Dynamic program generation
- Model and Dynamic program generation handle
 - NLU (Natural language understanding)
 - Required and optional inputs, computed inputs and eliciting input from user.
 - Flows
 - Output variables, speech and UI layout
 - Errors, retries and related user messaging
- A fraction of typical code is written for a Bixby Capsule

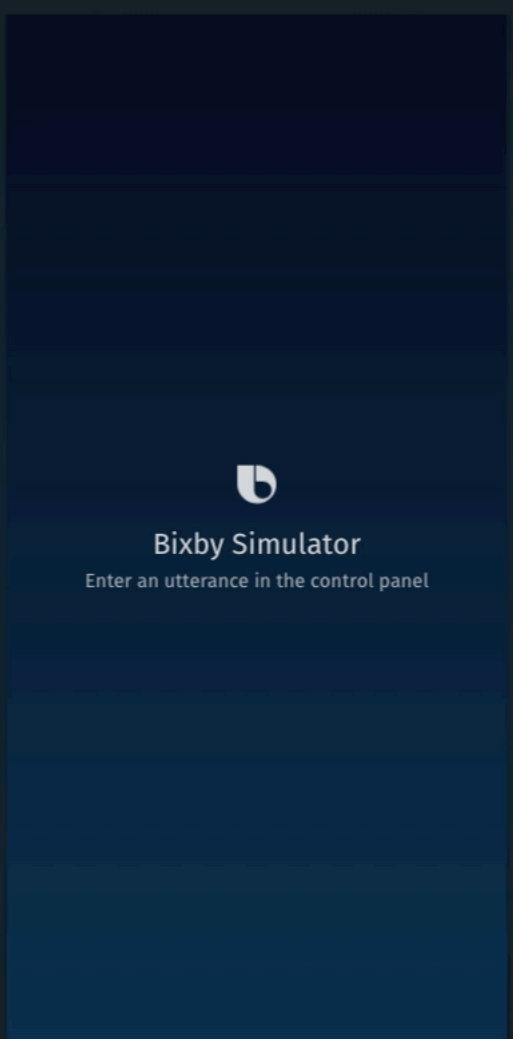


Bixby Dev - Dynamic Program Generation



Run NL

To use voice commands, hold down the spacebar or mic icon while speaking.



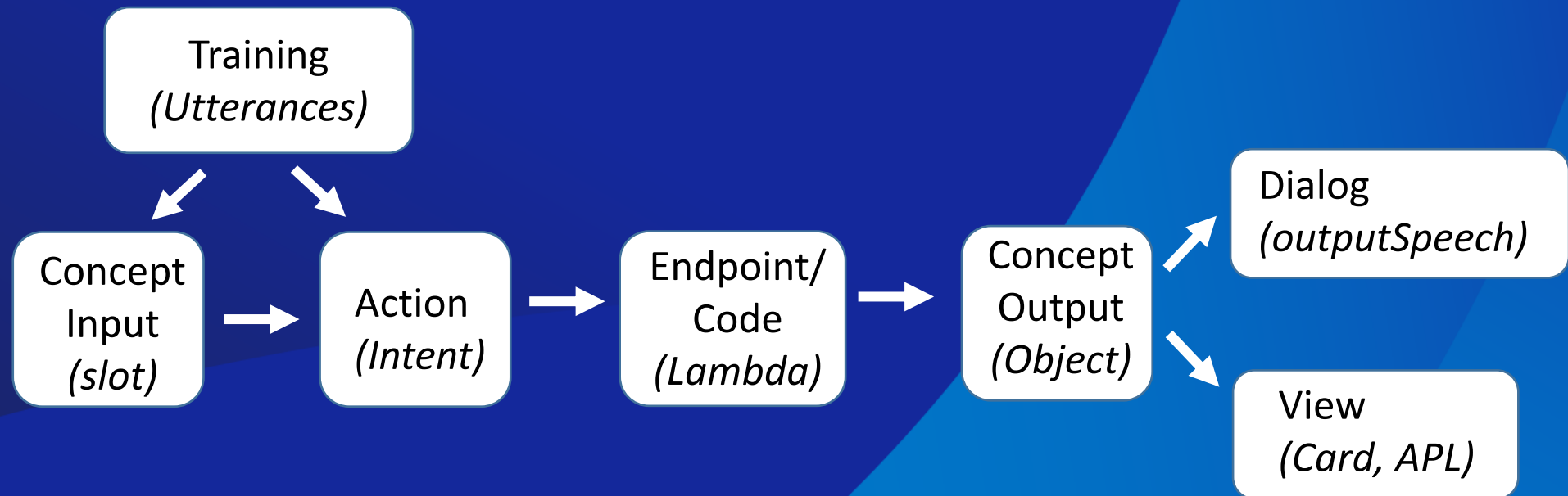
Nothing to debug. Run a query in the Simulator first.

Open Simulator

How to Start Developing for Bixby

Demo Rock, Paper, Scissors Capsule

Bixby Development - Components



Rock, Paper, Scissors Capsule Code Walkthrough



"Rock" to Rock,
Paper, Scissors
Capsule

NLU Training

Training: [Rock, Paper, Scissors]
Intent/Goal: SelectHand
Role: UserHand

Models

Action: SelectHand
Input: UserHand
Output: Hands

Endpoint

ShootHands.js

```
function shootHands(userHand) { ...  
  return {userHand, bixbyHand, whoWon}  
}
```

Model

Concept: Hands
• userHand
• bixbyHand
• whoWon

UI and Dialog




Dialog: handResult
UI/View: handResult

Bixby Development – IDE

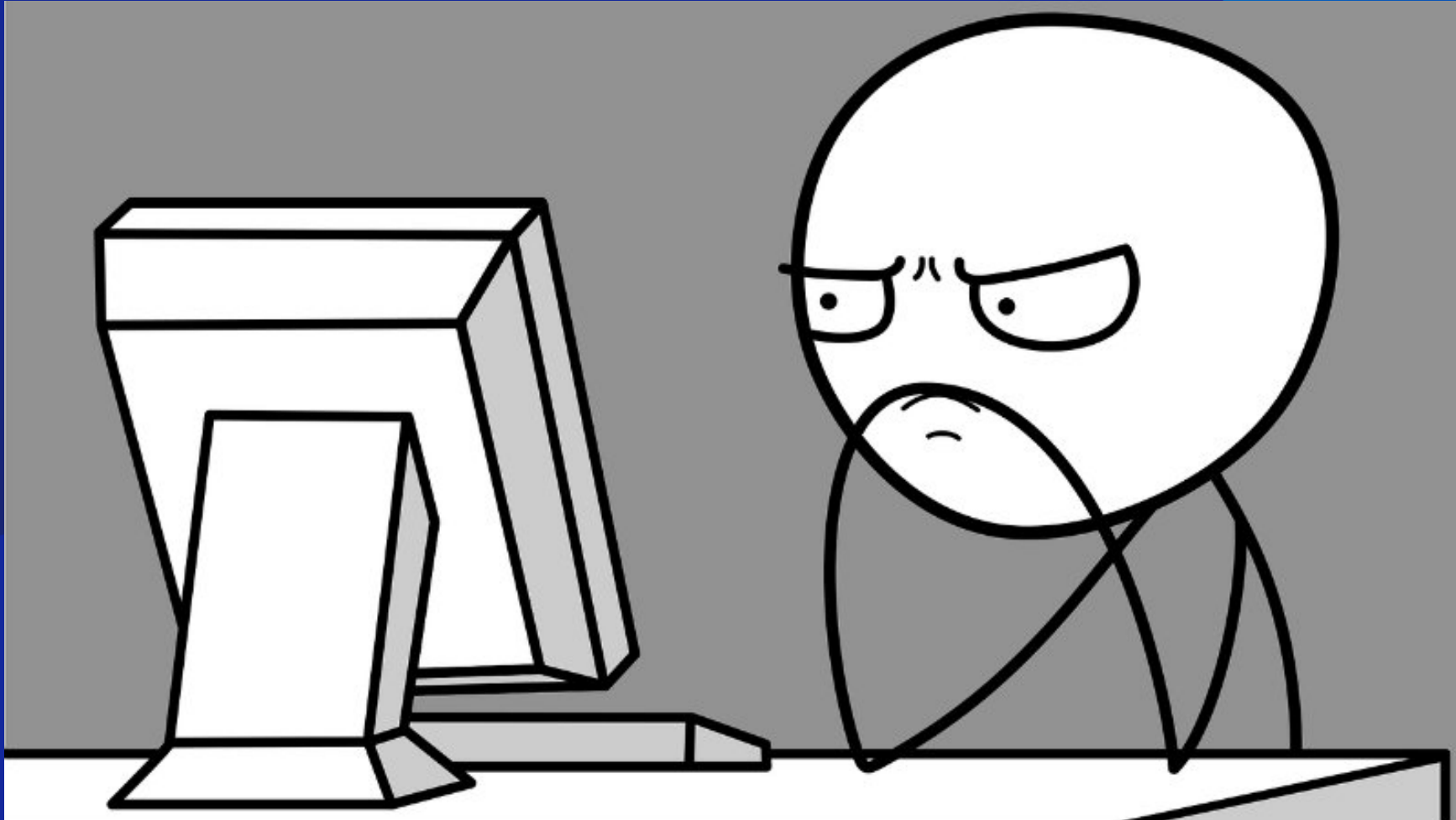
Bixby Developer Studio IDE - Single IDE for all Bixby development

- Modeling
- Code (JavaScript)
- NLU Modeling
- Simulator
- Debugger
- Unit Testing

Voice Assistant Terminology

| |  Bixby |  amazon alexa |  Google Assistant |
|------------------------|--|---|--|
| Voice Application | Capsule | Skill | Action |
| Application Start Name | Dispatch Name | Invocation Name | Invocation Name |
| NLU Training | Training | Sample Utterances | Training Phrases |
| Context/Input Objects | Concept | Slot | Entity |
| Goal/Intent | Action | Intent | Intent |
| Mapping Intent to Code | Endpoint | Handler | Web Hook |
| Code/Business Logic | JavaScript Function | Lambda | Cloud Function/Firebase |
| Output Speech | Dialog | Speak/Reprompt | Conversation |
| UI | View | Card/APL | Rich Response/ Interactive Canvas |

Be Patient – It will All Make Sense



Bixby Developers Resources



bixbydevelopers.com



github.com/bixbydevelopers



www.youtube.com/c/BixbyDevelopers



Bixby Developers Chat Podcast
bixbydev.buzzsprout.com



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Thank you & AMA

Presentation: bit.ly/vlbixby

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