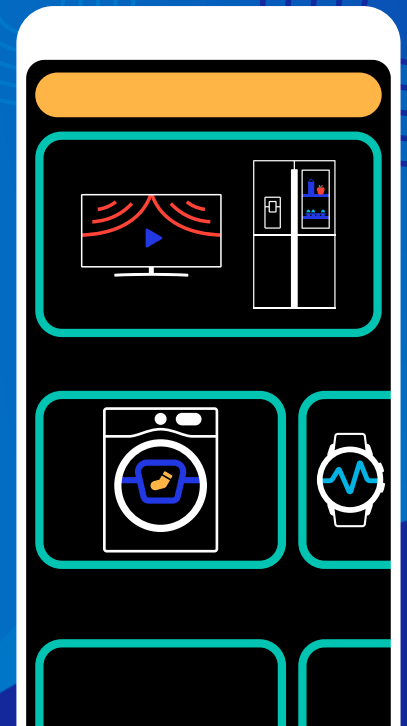
SAMSUNG

Bixby Developers

Bixby for Voice Developers

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

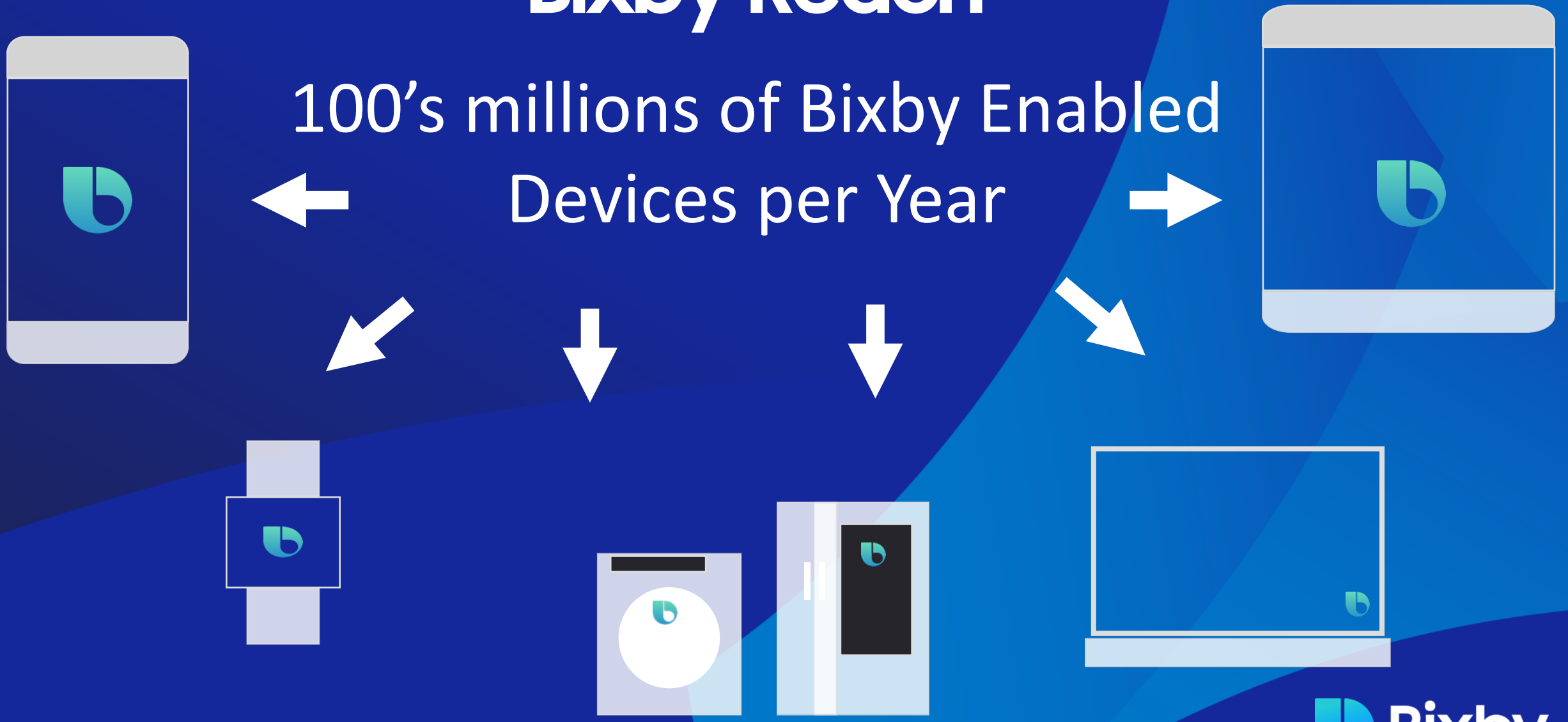
Bixby Reach

- #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

Bixby Reach

100’s millions of Bixby Enabled Devices per Year



Bixby

Bixby Development

Bixby

Bixby Development Style

Traditional

- Imperative
- Code Driven
- “How to do”

Bixby

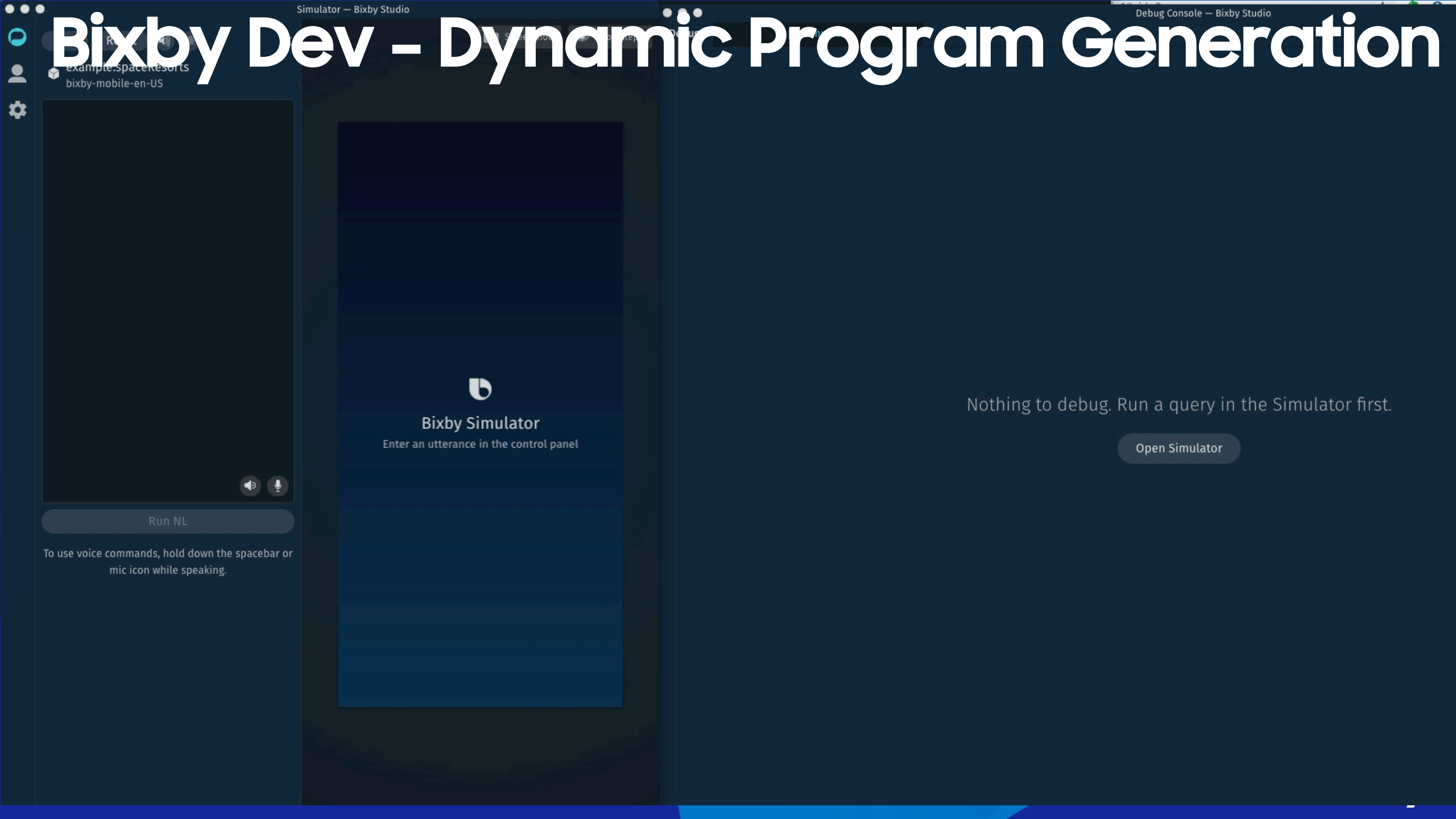
- Declarative/Opinionated
- Model Driven
- “What to do”

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

Bixby Dev – Dynamic Program Generation



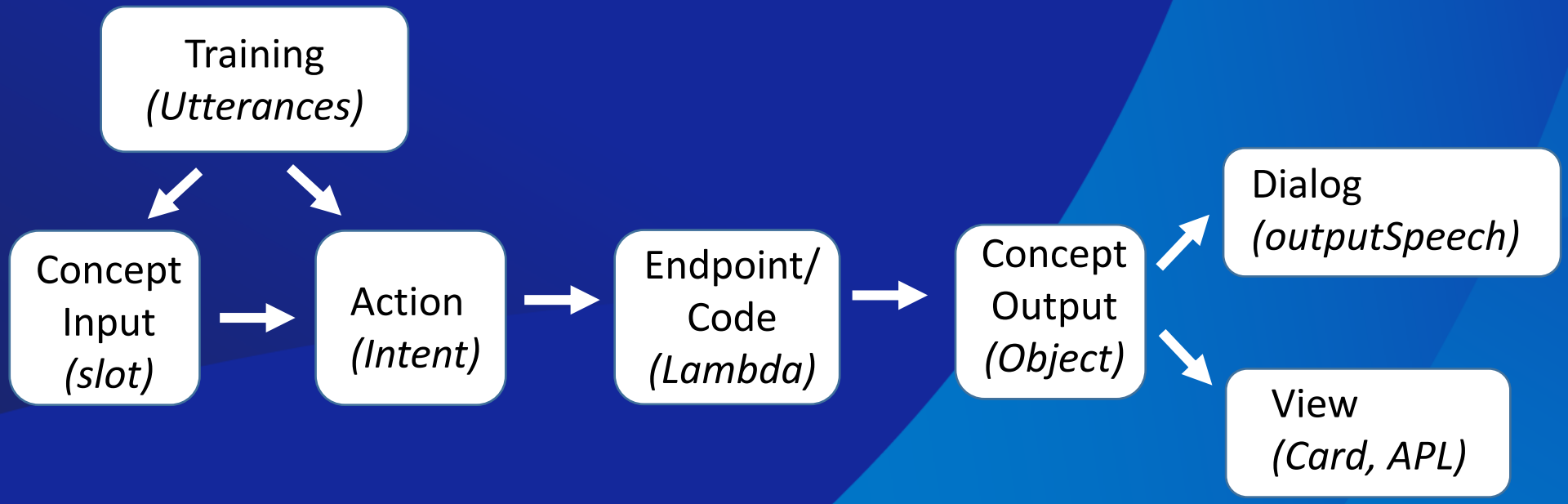
How to Start Developing for Bixby

Bixby

Demo Rock, Paper, Scissors Capsule

Bixby

Bixby Development - Components



Rock, Paper, Scissors Capsule Code Walkthrough

Bixby

"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

Bixby

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

Bixby Developers Resources

bixbydevelopers.com

github.com/bixbydevelopers

www.youtube.com/c/BixbyDevelopers

bixbydev.buzzsprout.com

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Thank you & AMA

Presentation: bit.ly/bixbyVoice19

Roger Kibbe | Senior Developer Evangelist | Twitter: @rogerkibbe