Building Bots

Beerud Sheth
Gupshup
Once-in-a-decade paradigm shift

Clients

PC

Websites

Browser

80s 90s

Apps

Smartphones

00s

Bots

Messaging

10s
Apps vs Bots

• App fatigue - Users don’t like downloads
• User acquisition costs are high
• Only short-tail apps popular
• Context is retained
• High cost of
  • development
  • upgrade
  • marketing
Everyone uses messaging!

**Big 4 social networks**
- Twitter
- Facebook
- LinkedIn
- Instagram

**Big 4 messaging apps**
- WeChat
- Viber
- WhatsApp
- FB Messenger
Conversational interfaces
Every brand & every business is building a bot strategy
Huge space emerging for critical enabling technologies

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<th>Bots</th>
<th>Horizontal Services</th>
<th>Search &amp; Discovery</th>
<th>Bot-to-bot communication</th>
<th>Infrastructure</th>
<th>X-platform APIs</th>
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Web analogs

- Paypal / Ad Networks
- Google
- AWS
- http / html
- Browser

Standards / Specs

- For humans
- For bots

Dev / QA

- Host ing
- Monitor
- Analytics

Channel APIs

- Channel-specific

Messaging Channels

- Twitter
- Messaging
- SMS
- Email
- Chat
- Browser

E-commerce, content, enterprise, vertical-specific
The bot lifecycle

1. **Analyze**
   - Requirement
   - Spec
   - Script
   - Default Behaviour

2. **Promote**
   - Listing on Bot Stores
   - Architect
   - X - platform APIs Data persistence
   - Code abstractions Standard libraries

3. **Monitor**
   - Conversational and System monitoring
   - Dev
   - X - platform testing

4. **Publish**
   - Identity Management
   - Publish

5. **Deploy**
   - Automated Hosting
   - Deploy

6. **Test**
   - Test
Bot building tools for everyone

IDE Bot Builder
Cloud-based integrated environment for developers

Graphical Bot Builder
Graphical tool / flow editor for non developers

Template Bot Builder
Pre-defined bot templates for business users
Cross-channel APIs: write-once run-anywhere

Channels Supported

- Facebook
- SMS
- Twitter
- Telegram
- Slack
- HipChat
- Skype
- Kik
- Twilio
- Line
- Cisco Spark
- Teamchat

Coming soon

- Hangouts
- Kakao
- Viber
- Smooch
- Jio
- Freshdesk
NLP + AI modules for intelligent bots

• Entity and Intent Extraction from user queries
• Semantic matching of user queries to intents
• Training is critical; domain-specific datasets may be necessary
• Continuous learning is required for ongoing refinements
Context Management and Personalization

- Slot filling
- Response selection
- State management
- Conversational script
- “Lifetime” of contextual info
- User profile & history
- Personalized preferences

Contextual script

*How can I help you?*
*<book a flight>*
  from which city
to which city
on which date
here are the options…
*<change a flight>*
  which date
  which city
here are the change options…
*<change fee>*
  confirm fee
  confirm change
  ok, flights changed…
Thank You!

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