

A hand wearing a white glove is pulling a vibrant red curtain to the right, revealing a dark background. The hand is positioned in the upper right quadrant of the image.

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TLV 2018

# Scaling Your Chatbot

Eyal Yavor, CTO @ Meekan



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**jason**

meekan, we need a quick phone call tomorrow



**meekan\_scheduler** BOT

Cool. So, a call tomorrow with Jason, Dave, Amy and Ron  
Matching calendars...

This is definitely the best option:

1 Tomorrow at 2 PM

These are also quite good:

2 Tomorrow at 1 PM

3 Tomorrow at 1:30 PM (Amy is busy at this time)

4 Tomorrow at 2:30 PM (Dave is busy at this time)

Say **help** to see all available commands.



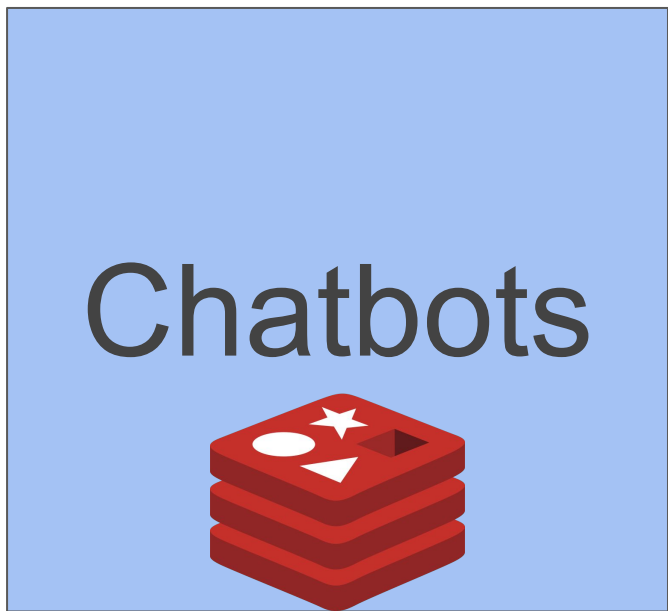
**amy**

well, 1 looks good



book 1





Scheduling



Notifications

“Any sufficiently complicated model class contains an ad-hoc, informally-specified, bug-ridden, slow implementation of half of a state machine.”

– Pete Forde

# Maintaining Dialog

- State + Context in Redis, per conversation
- `SET STATE_MACHINE:D065424`
- Saving serialized python objects

```
state = state_store.load(conversation_id)
state_machine.apply(state, message) # Update state
state_store.save(conversation_id, state)
```

- Smooth transition to threads within conversation
- Expire!

# De-duping

- Chatbot with hot-cold failover
  - Our notifications must not be handled twice (Duh)
  - Chat messages must not be handled twice (Duh)
  - Some actions really must not be handled twice (Onboarding)
- 
- GETSET on an action key, with EXPIRE

# User Notifications

Different notification preferences per team

- Always adding new types, need to keep what's muted
- Stop/Start notifications: SADD/SREM
- What's stopped: SMEMBERS
- Is Muted: SISMEMBER {user\_id} {notification\_type}



# Appropriate Help Messages

HINCRBY counter:{group\_by} {action}

- By team
- By channel
- By chat user
- By Meekan user

# Fast dynamic dropdowns

- Address book lookups
- Need to show:
  - Autocomplete options
  - Selected participants
  - Unselected participants from the team
- 3 seconds or Slack times out



Eyal Yavor 17:19

schedule new meeting



Meekan Scheduling APP 17:19

I love this job! Calendar match, whenever

Name

Meeting from Slack

Location

Unknown

Duration

45 minutes

People

yourself

amit

Add a room...

17:19 Th

1

Other Contacts

✉ Amit Abir

2

✉ Amit Elazar

3

✉ Amit Hadar

4

✉ Amit Koren

W

✉ Amit Rivlin

✉ Amit Yavor

✉ Amitay Dobo

✉ amit v

ething to chan

everyone's calend

Cancel

# Routing (Under improvement)

- Multiple bot instances, Meekan users appear multiple times
  - Some events relayed to specific team
  - Some events are for a specific Meekan user
  - Each instance notifies the IDs it supports (emails, slack ID, team ID)
  - Message router looks-up the instances for a notification on Redis
- 
- Now: POSTed Webhooks
  - Will be Streams

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# Thank You!

We're hiring!

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[@yulkes](#)

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