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- Pre-attentive Prompt
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/ H E L P :intent
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- Utterances
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/ D R E S S I N G - R O O M :Intent
- Utterances
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- Utterances
- State
- Responses
- Error Recovery

A P P E N D I X
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/GENERIC-FEATURES

These features are available throughout all cycles

Pre-attentive Prompts

Call by Name

- “Miranda”

CUI-Initiated

- When a notification needs to be pushed to the user, the CUI will play an earcon and start listening.
    - “**bing**” “What’s up?” “*Your dressing room is ready!*”
- Listening state can be terminated with a single or double-tap when in this CUI-initiated mode.

Continued Listening

- In a dialogue, the CUI will continue listening without the need for preattentive prompt. Dialogues vs sessions are explained next.

If there are pre-attentive prompts that are specific to individual intents, they will be listed on the intents.

Dialogue vs Session

Session

In our CUI, a session is defined as the time between entering and leaving the store. Within that session, state is preserved that holds things like which items were picked up by the shopper

Dialogue

A dialogue is an exchange between the user and the CUI in which the user does not have to repeat the preattentive prompt in order for the CUI to continue to listen. The CUI continues to listen for responses until a response window passes (2 sec), or the user closes the dialogue with a double-tap.

Session

Dialogue user-initiated, trails off

verbal preattentive prompt

Hey Miranda, User question/ command

Miranda response

(within 2 sec)

User question/ command

(dialogue window elapsed, dialogue ended)

Dialogue force-closed

Hey Miranda, User question/ command

Long Miranda response

(double-tap phone to interrupt Miranda and end the dialogue)

Dialogue agent-initiated

non-verbal preattentive prompt

buh dum

What's up?

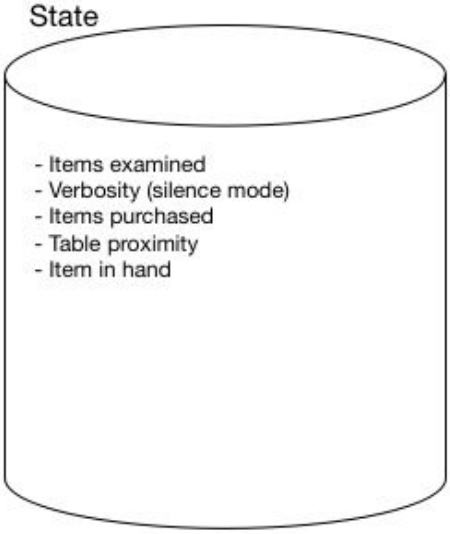
Miranda response

(within 2 sec)

User question/ command

(dialogue window elapsed, dialogue ended)

State



Gesture Recognition

To take advantage of the fact that people use CUIs without a phone-in-hand, we implement gesture recognition to send a signal to your CUI without having to speak or hold your phone.

Double Tap

With your phone still in your pocket, if you double-tap on the body of the phone, the CUI will immediately silence and close any open dialogues. This allows discreet interaction with your CUI to disengage should it be working in annoying ways.

Item in Hand

By utilizing RFID tags in clothing, BLE beacons on tables, and RFID scanner arrays on tables, it is possible to tell with a reasonable amount of accuracy which user is holding which item, even if multiple people are standing at the same table. Additional accuracy can be gained by asking the user to shake the item gently back and forth, which creates a recognizable gesture that can be paired to the CUI that requested the shake.

/ G R E E T I N G :intent

Welcome message

Spoken

|| *Welcome [back] to Macys!*
|| *Hey! Welcome to Macys!*
|| *Welcome to Macys. Good to have you back.*

Pre-attentive Prompt

- Turn on app, enter store

State

- Location, store

Utterances

- Triggered without utterance

Error Recovery

- No store recognized, nothing spoken

/ H E L P :intent

Access the help menu

State

- Location, store

Utterances

What can I ask you?
What can you do?
How do I use you?
How do you work?
How does your system work?
What can you help me with?
What do you do?
What are you?

Responses

I'm here to help you navigate the store, figure out what's in stock, and have items sent to your stylist or checkout. When you pick up an item, you can ask me for more details on that item. When you find something you like, let me know and I can have a stylist put things together for you to try on. I know your size, so I can let you know if something is in inventory.

/WHERE-IS :intent

Find an item in the store.

Utterances

- Where are …?
- Can you help me find …?

Do you know where the … are?

State

- Location, store
- Error stack
- Items recognized
    - Single item (SKU number)
    - Item type (shoes, jeans)
    - Brand collection (New DKNY collection)

Spoken

|| *[Item] can be found in [location]*
|| *[Item]s are in [location]*

Error Recovery

- Item not found. Use progressive language
    a. *I'm sorry, I don't recognize that item. Could you repeat what you are looking for?*
    b. *I'm sorry, I still don't recognize that item. Could you try another word for that item?*
    c. *I'm sorry, I still don't understand you. Should I call for an assistant?*

/SIZE-AVAILABLE :intent

Utterances

- Does this come in my size?
- Is my size available?
- Is my size in stock?
- Do they have my size?
- Size check.
- My size?
- Is this [item] in my size?

State

- Location, store
- Error stack
- Item in hand

Responses

Yes! Your size is in stock! Should I send it to your stylist?
Your size is indeed in stock! Would you like to try it on?

Error Recovery

Progressive error handling with options

1. *I'm sorry, I can't tell which item you're asking about. Could you hold the item and gently shake it back and forth so I can recognize it? Or say "last item" and I'll use that one.*
2. *I still can't tell which item you're holding. Could you hold the item and gently shake it back and forth so I can recognize it? Or you can say "last item" and I'll use that one.*
3. *I still can't tell which item you're holding. Would you like to choose from a list of items at this table? Or say "last item" and I'll use that one.*
4. *I'm sorry I haven't been able to help with this item. Should I call for an associate?*

/COLOR-AVAILABLE :intent

Utterances

- Is this available in [color]?
- Is [color] available for this [item]?
- Can I get this in [color]?

State

- Location, store

- Item in hand
- Last item held

Responses

The color [color] is available!
… is in stock!
… is not available in your size

Error Recovery

Progressive error handling

1. *I'm sorry, I can't tell which item you're asking about. Could you hold the item and gently shake it back and forth so I can recognize it? Or say "last item" and I'll use that one.*
2. *I still can't tell which item you're holding. Could you hold the item and gently shake it back and forth so I can recognize it? Or you can say "last item" and I'll use that one.*
3. *I still can't tell which item you're holding. Would you like to choose from a list of items at this table? Or say "last item" and I'll use that one.*
4. *I'm sorry I haven't been able to help with this item. Should I call for an associate?*

/REQUEST-ITEM-DETAILS :intent

Utterances

Can you tell me more about this item?
What are this items' details?
Tell me more about this

State

- Location, store
- Item in hand
- Last item held

Responses

The [item] comes in [color] and [sizes]. [Additional details]

Error Recovery

Progressive error handling

5. *I'm sorry, I can't tell which item you're asking about. Could you hold the item and gently shake it back and forth so I can recognize it? Or say "last item" and I'll use that one.*
6. *I still can't tell which item you're holding. Could you hold the item and gently shake it back and forth so I can recognize it? Or you can say "last item" and I'll use that one.*

7. *I still can't tell which item you're holding. Would you like to choose from a list of items at this table? Or say "last item" and I'll use that one.*
8. *I'm sorry I haven't been able to help with this item. Should I call for an associate?*

/SEND-TO-STYLIST :intent

Have your stylist collect the items you'd like to try on

Utterances

- Send this to my stylist
- I'd like to try this on
- I want to try this one
- Send this to the back
- Send this to my fitting room

State

- Location, store
- Item in hand
- Last item held
- Items in cart

Responses

The peacoat? Which color would you like?
The Kenneth Cole peacoat in grey is being sent to your stylist.
Understood, the [item] in [color] will be sent to your stylist.
… is being collected by your stylist.

Error Recovery

Get all details

1. *Which color would you like to try on?*

Progressive error handling

1. *I'm sorry, I can't tell which item you're asking about. Could you hold the item and gently shake it back and forth so I can recognize it? Or say "last item" and I'll use that one.*
2. *I still can't tell which item you're holding. Could you hold the item and gently shake it back and forth so I can recognize it? Or you can say "last item" and I'll use that one.*
3. *I still can't tell which item you're holding. Would you like to choose from a list of items at this table? Or say "last item" and I'll use that one.*
4. *I'm sorry I haven't been able to help with this item. Should I call for an associate?*

Item in cart

1. *This item is already with your stylist. Would you like to add another size or color?*

/DRESSING-ROOM :Intent

Go try shit on.

Utterances

- Can I get a fitting room?
- … dressing room?
- Can I try this on?
- I want to try this on
- Let's try stuff on
- I'm ready to try on my items

State

- Location, store
- Item in hand
- Last item held
- Items in cart
- Fitting room wait time

Responses

Great! Your stylist [stylist name] will have your items in the back and a fitting room will be available in [wait time] minutes. Would you like an alert when your room is almost ready?

*::Yes:: Great. I'll send you this noise *bing* when your room is almost ready.*
::No:: Sounds good. Your stylist [stylist] will be waiting for you.

/ITEMS-IN-CART :intent

Utterances

- What do I have with my stylist?
- What items are in my cart?
- What's in my cart?
- What's with my stylist?
- What am I trying on?
- What am I buying?

State

- Location, store
- Items in cart

Responses

You have [number] items with your stylist, including [item1], [item2], …. Would you like to try them on?

Error Recovery

Progressive error handling

1. *I'm sorry, I can't tell which item you're asking about. Could you hold the item and gently shake it back and forth so I can recognize it? Or say "last item" and I'll use that one.*
2. *I still can't tell which item you're holding. Could you hold the item and gently shake it back and forth so I can recognize it? Or you can say "last item" and I'll use that one.*
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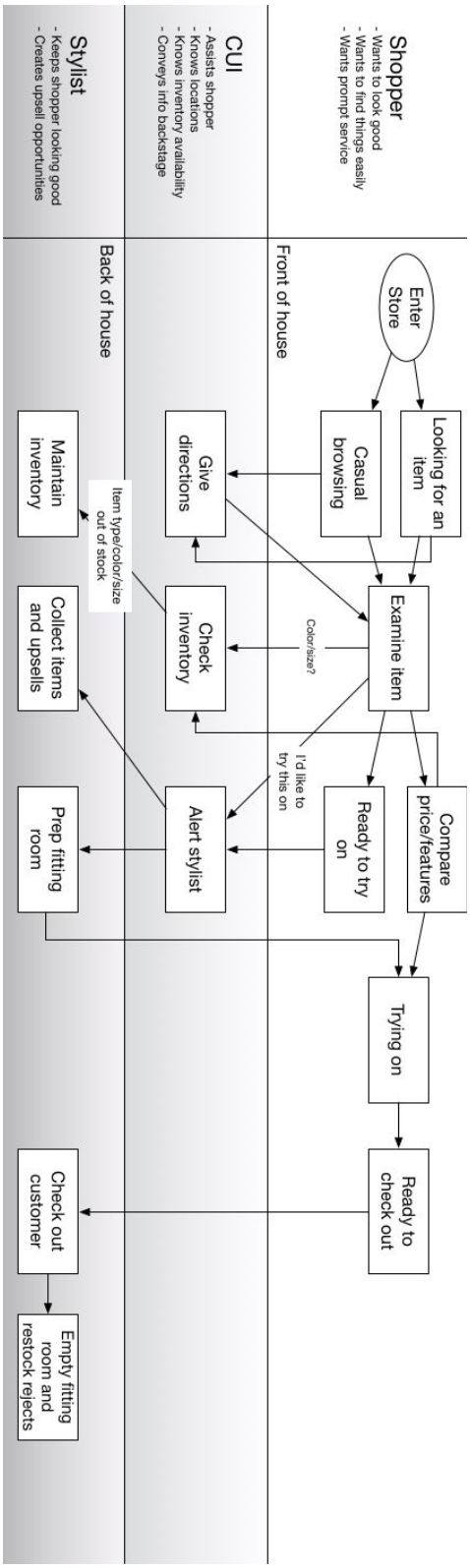
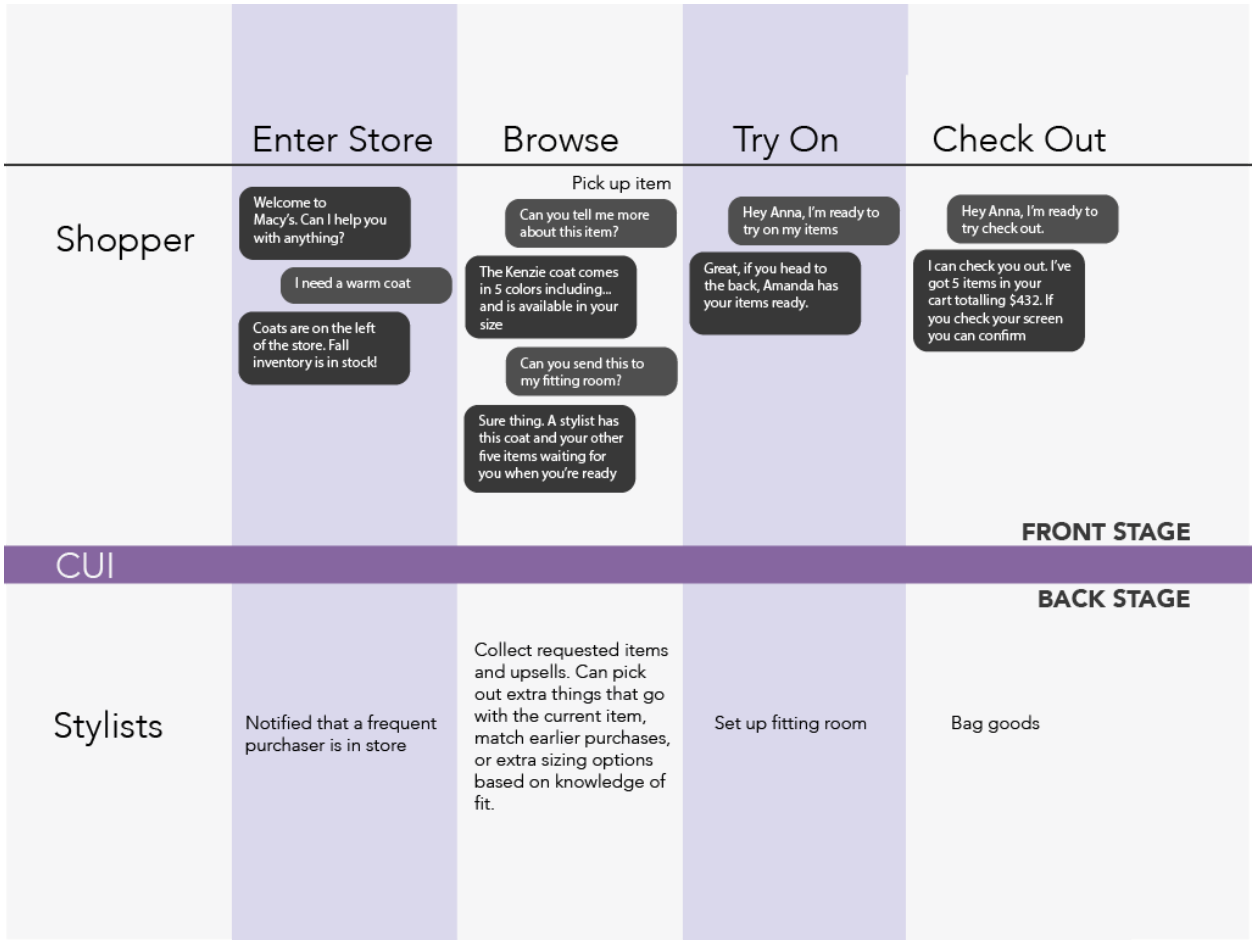
4. *I'm sorry I haven't been able to help with this item. Should I call for an associate?*

APPENDIX

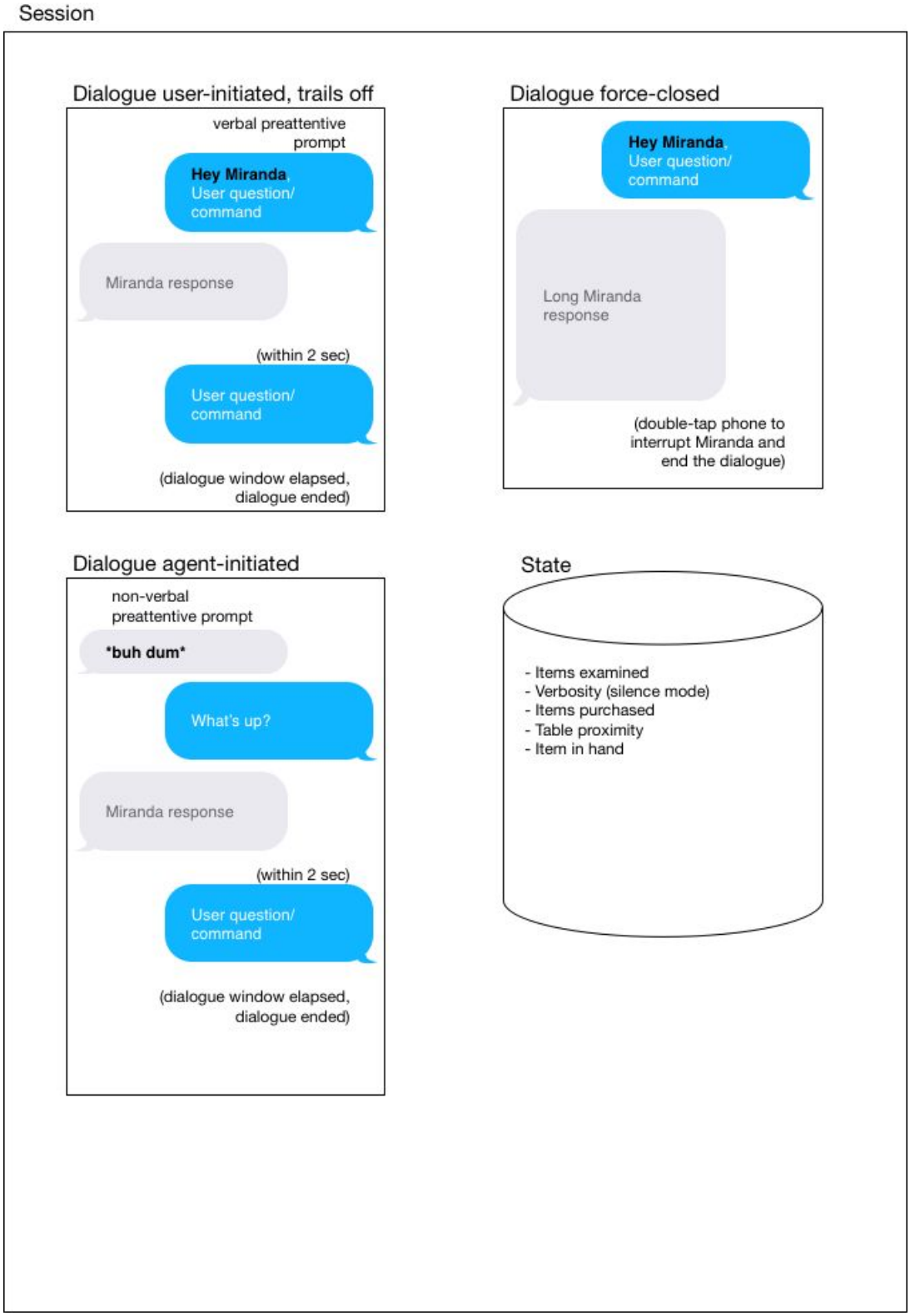
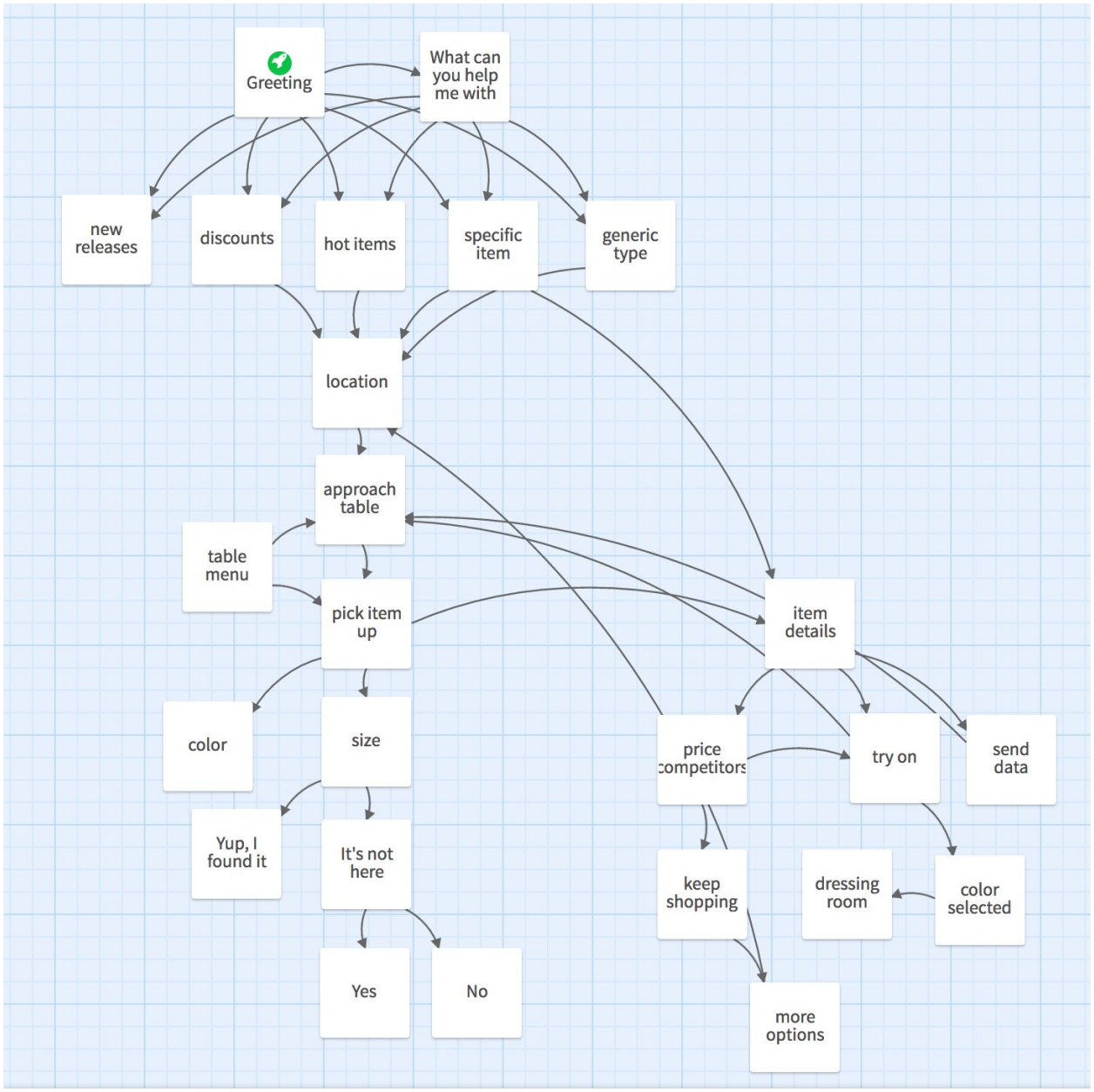
Service Diagram



Service x Conversation



Dialogue vs Session



Non-linear Conversation Map