Legal Aid Chicago Call Menu Redundancies

Presentation #1

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Due to some Contact Session ID's spanning over multiple datasets, it was pertinent to combine the data into one large dataset for analysis

Combined Dataset (2,075,558 x 7)

combined_data

1	Contact Session ID	EP Name	Flow Name	Activity Name	Activity Start Timestamp	Queue Name	Agent Name
0	a4b37cb0-b9be-4e3c-b86e-2f891a09ffe2	Main Number Telephony EP	NaN	NaN	2024/04/07 12:32:12 AM	NaN	NaN
1	a4b37cb0-b9be-4e3c-b86e-2f891a09ffe2	NaN	LACMain	NaN	2024/04/07 12:32:12 AM	NaN	NaN
2	a4b37cb0-b9be-4e3c-b86e-2f891a09ffe2	Main Number Telephony EP	NaN	LanguageSelectionMenu	2024/04/07 12:32:12 AM	NaN	NaN
3	a4b37cb0-b9be-4e3c-b86e-2f891a09ffe2	Main Number Telephony EP	LACMain	NaN	2024/04/07 12:32:12 AM	NaN	NaN
4	a4b37cb0-b9be-4e3c-b86e-2f891a09ffe2	Main Number Telephony EP	NaN	NaN	2024/04/07 12:32:14 AM	NaN	NaN
...	...	...	...	...	...	...	...
86372	b10357bb-bb3c-4b8f-80e7-ac58d7313833	NaN	FarmworkerMain	NaN	2025/03/15 08:25:06 PM	NaN	NaN
86373	b10357bb-bb3c-4b8f-80e7-ac58d7313833	Farmworker Main Number Telephony EP	NaN	LanguageSelectionMenu	2025/03/15 08:25:06 PM	NaN	NaN
86374	b10357bb-bb3c-4b8f-80e7-ac58d7313833	Farmworker Main Number Telephony EP	FarmworkerMain	NaN	2025/03/15 08:25:06 PM	NaN	NaN
86375	b10357bb-bb3c-4b8f-80e7-ac58d7313833	Farmworker Main Number Telephony EP	NaN	FarmworkerMainMenu	2025/03/15 08:25:14 PM	NaN	NaN
86376	b10357bb-bb3c-4b8f-80e7-ac58d7313833	Farmworker Main Number Telephony EP	NaN	NaN	2025/03/15 08:49:26 PM	NaN	NaN

2075558 rows × 7 columns

Sources: CAR Data

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In order to analyze the data, we grouped the data by Contact Session ID and outputted the Flow & Activity Call Journey for each caller

Activity Journey	Flow Journey

```
act_journey

Contact Session ID
00002422-f51f-458b-82d6-cfa5a3f36fd9    [LanguageSelectionMenu, MainMenu, StaffDirecto...
00011655-35de-476f-9a8c-dd48ed4d914a    [LanguageSelectionMenu, LanguageSelectionMenu,...
00014a58-a6ce-4cb2-a529-d55e2c9c304d    [LanguageSelectionMenu, MainMenu, SeniorsMenu,...
00023e47-b722-4e2f-b2e2-855911d085fd                  [LanguageSelectionMenu, MainMenu]
0002f64b-59d3-4cba-885c-83b997d2fc73    [LanguageSelectionMenu, LanguageSelectionMenu,...
                                                          ...
fffd0f07-35ae-4029-8d41-b355479242a2    [LanguageSelectionMenu, LanguageSelectionMenu]
fffe199f-3382-43e1-b8a5-efb9d55bdb23       [LanguageSelectionMenu, FarmworkerMainMenu]
fffe91b1-c54d-4b1e-b19d-1ef78e4a8871    [LanguageSelectionMenu, LanguageSelectionMenu,...
fffeef9f-11f2-42c8-80e3-511a9a01d66f                           [LanguageSelectionMenu]
ffffa50d-6d02-4281-9141-087a806a8343    [LanguageSelectionMenu, LanguageSelectionMenu]
Length: 157453, dtype: object
```

```
flow_journey

Contact Session ID
00002422-f51f-458b-82d6-cfa5a3f36fd9                              [LACMain, LACMain]
00011655-35de-476f-9a8c-dd48ed4d914a                              [LACMain, LACMain]
00014a58-a6ce-4cb2-a529-d55e2c9c304d    [LACMain, LACMain, PreLegalMenuSeniorsMenu, Le...
00023e47-b722-4e2f-b2e2-855911d085fd                              [LACMain, LACMain]
0002f64b-59d3-4cba-885c-83b997d2fc73    [LACMain, LACMain, PreLegalMenuSeniorsMenu, Le...
                                                          ...
fffd0f07-35ae-4029-8d41-b355479242a2                              [LACMain, LACMain]
fffe199f-3382-43e1-b8a5-efb9d55bdb23            [FarmworkerMain, FarmworkerMain]
fffe91b1-c54d-4b1e-b19d-1ef78e4a8871                              [LACMain, LACMain]
fffeef9f-11f2-42c8-80e3-511a9a01d66f                              [LACMain, LACMain]
ffffa50d-6d02-4281-9141-087a806a8343                              [LACMain, LACMain]
Length: 157383, dtype: object
```

Activity Journey Example	Flow Journey Example

- **Example:** [LanguageSelectionMenu, MainMenu, SeniorsMenu, LegalMenu1, LegalMenu2, GetLoggedInConsumerAgents, IntakePreQueueMessage1, ConsumerQueue, PreQueueMessage2, PlayMOH300s, QueueMenu1, ReadANI, CCB, PlayCCBConfirmation, DisconnectContact1, LegalServerScreenPop]

- **Example:** [LACMain, LACMain, PreLegalMenuSeniorsMenu, LegalMenu, Queues, CourtesyCallback]
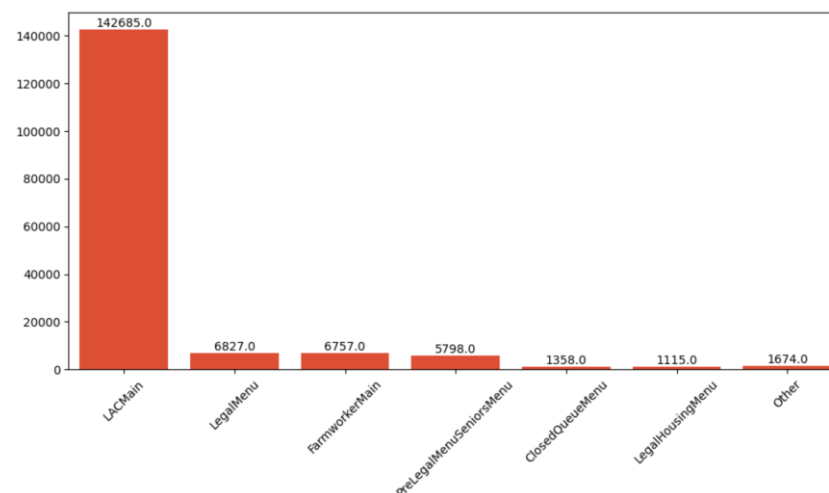
Key Commentary

- We **dropped NA** values for the call journeys 💬
- With this data extracted by Contact Session ID, we will be able to **identify redundancies** in the menu options
- We can utilize this data to **extract** the number of times an **activity/flow is repeated** (which is an area of interest)
- We can also utilize this data to **identify actions/flows** that are **confusing callers**

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If an action or flow is in the call journey more than once, it is considered to be a repeat (the caller essentially left & came back)
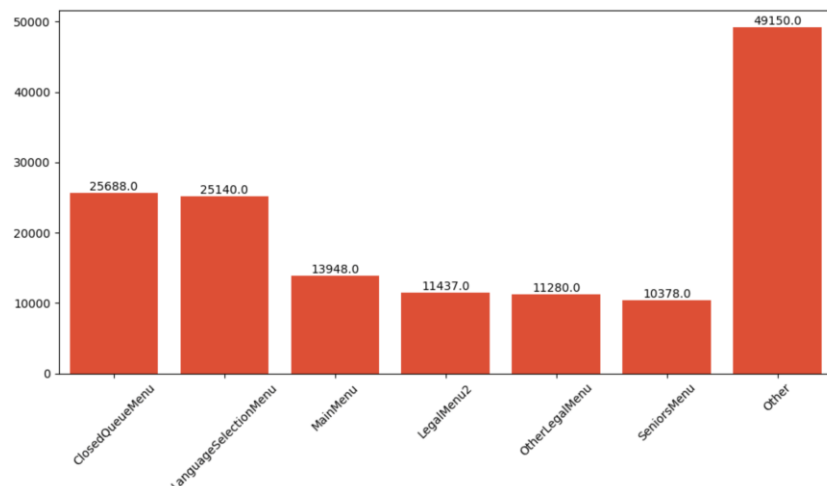
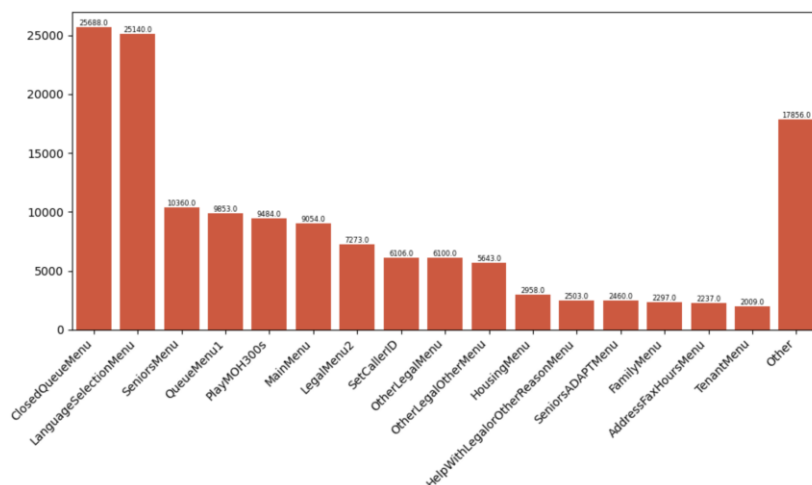| Activity Repeats	Flow Repeats

Key Commentary

- The number of "repeats" is calculated by finding the **total** number of times an **activity/flow appears** in the call journey (of a specific Contact Session ID) **– 1**
- This is helpful as it **identifies menus/actions** in which callers are likely to have **selected the wrong option**, forcing them to go **back to a menu or action** they were **previously on**
- Activities are repeated **more frequently** than flows, as callers needing **options re-read** constitutes a repeat, which helps identify menus where the **options confuse the caller**

Sources: CAR Data

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We identified the menus and flows that cause the most confusion for callers (as callers often go back to a previous menu after these)

Activity Repeat Causes	Flow Repeat Causes
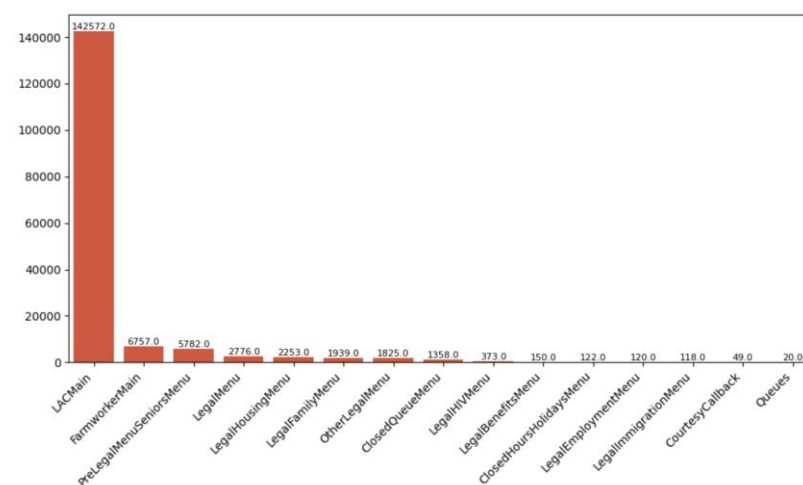
Key Commentary

- This counts the number of times a caller moves to a repeated flow/activity **after** being on a given flow/activity
- This allows us to see the **most common** events that cause the most confusion; it could mean they needed to **repeat the options, go back to the previous activity, or are simply looping unnecessarily**
- We realized that the high count of LAC Main repeat causes is due to an **error in the data reporting,** which he hope to implement a fix to soon

Sources: CAR Data

We have identified a potential redundancy/error in the system for the Suburbs or City prompt of the Pre-Seniors Menu

Example Call & Caller Confusion

	Flow Name	Activity Name
0	LACMain	NaN
1	NaN	LanguageSelectionMenu
2	LACMain	NaN
3	NaN	MainMenu
4	PreLegalMenuSeniorsMenu	NaN
5	NaN	SeniorsMenu
6	NaN	SeniorsConfirmationMenu
7	NaN	SuburbsOrCityMenu
8	NaN	SeniorsADAPTMenu
9	NaN	SeniorsADAPTMenu
10	LegalMenu	NaN
11	NaN	LegalMenu1
12	NaN	LegalMenu2
13	LegalHousingMenu	NaN
14	NaN	HousingMenu
15	NaN	PreTenantMenu
16	NaN	TenantMenu
17	NaN	HousingMenu
18	LegalMenu	NaN
19	NaN	LegalMenu2
20	NaN	LegalMenu2
21	LegalHIVMenu	NaN
22	NaN	HIVMenu
23	LegalMenu	NaN
24	NaN	LegalMenu2
25	NaN	LegalMenu2
26	NaN	LegalMenu2
27	LACMain	NaN
28	NaN	MainMenu
29	PreLegalMenuSeniorsMenu	NaN
30	NaN	SeniorsMenu
31	NaN	SeniorsConfirmationMenu
32	NaN	SuburbsOrCityMenu
33	NaN	SeniorsADAPTMenu
34	NaN	SeniorsADAPTMenu
35	LegalMenu	NaN
36	NaN	LegalMenu2
37	LegalFamilyMenu	NaN
38	NaN	FamilyMenu
39	LegalMenu	NaN
40	NaN	LegalMenu2
41	NaN	LegalMenu2
42	LegalMenu	NaN

1) Caller is asked to confirm if a Senior

2) Caller is asked if they live in the city or suburbs

3) If the caller responds city, sent to ADAPT Menu

4) If caller doesn't want ADAPT, sent to Legal Menu

The cycle is repeated

Discrepancy in Flow Chart
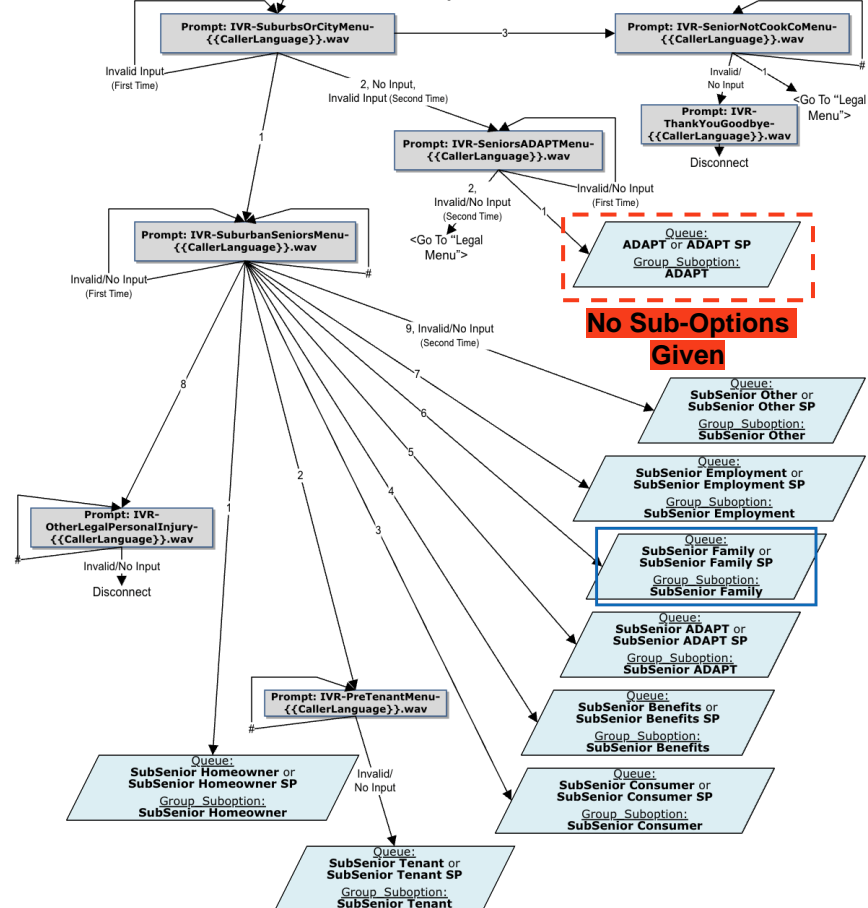
We will continue to utilize the data to identify redundancies and areas of confusion for customers

Next Steps

1 — **Determining reasons for confusions/redundancies:** Now that we have identified menus/activities that are confusing callers, we can dive into the most common confusions and try to identify the reasons behind the confusions

2 — **Dive deeper into data misclassifications:** By continuing our analysis, we will be able to identify areas in the data that don't make sense (for example, the data repeats "LAC Main" instead of flowing to "Main Menu")

3 — **Create more outputs:** We will work to create simple-to-use code that will produce outputs/graphs that are helpful in identifying redundancies and analyzing the call data (like the previous charts we have made)

Questions?