

This is sample design document for banking bot. This is not a production grade document it's a sample document to illustrate few important design concept and guidelines.

Assumption:

1. Customer has one account number and one debit card associated with it
2. Customer has one credit card number
3. Mobile recharge for prepaid only
4. Authentication part is not included.

Design Guidelines:

1. Use shapes/nodes as per the legends.
2. Split the flow in small tasks and call it states. Give number to each state. Make sure to have one state per page.
3. Splitting the flow in multiple states will make it readable and easy to maintain.
4. State numbering example.
For medium Bot flow 50 states should be enough. For 50 states we can start numbering from 000,020,030... and end with 980.
Each state will have maximum 19 intents. (If required you can keep it more than 19 but it's better to have fewer intents per state)
So state 000 will have intents from 000 to 019. e.g. 000.Default Welcome Intent, 001.Default Fallback Intent
5. Number at the start of each intent will make sure that all the intents are arranged in required sequence as per our design.
6. Also, it will make sure that each intent name is unique. e.g. We may want to use 'UserWantsToAddDetails' intent name in multiple states for different context. Unique state numbering will make intent name unique and easy to understand
7. Intent naming format. e.g. xxx.UserProvidesFirstName
8. Fallback Intent naming format. e.g. xxx.UserProvidesFirstName_Fallback
9. Context naming format. e.g. awaiting_first_name
10. Context lifespan should always be 1 for directive dialog bot but it can be more than 1 for free text bot.

Intent matching is controlled by positive training phrases, negative training phrases and the context lifespan

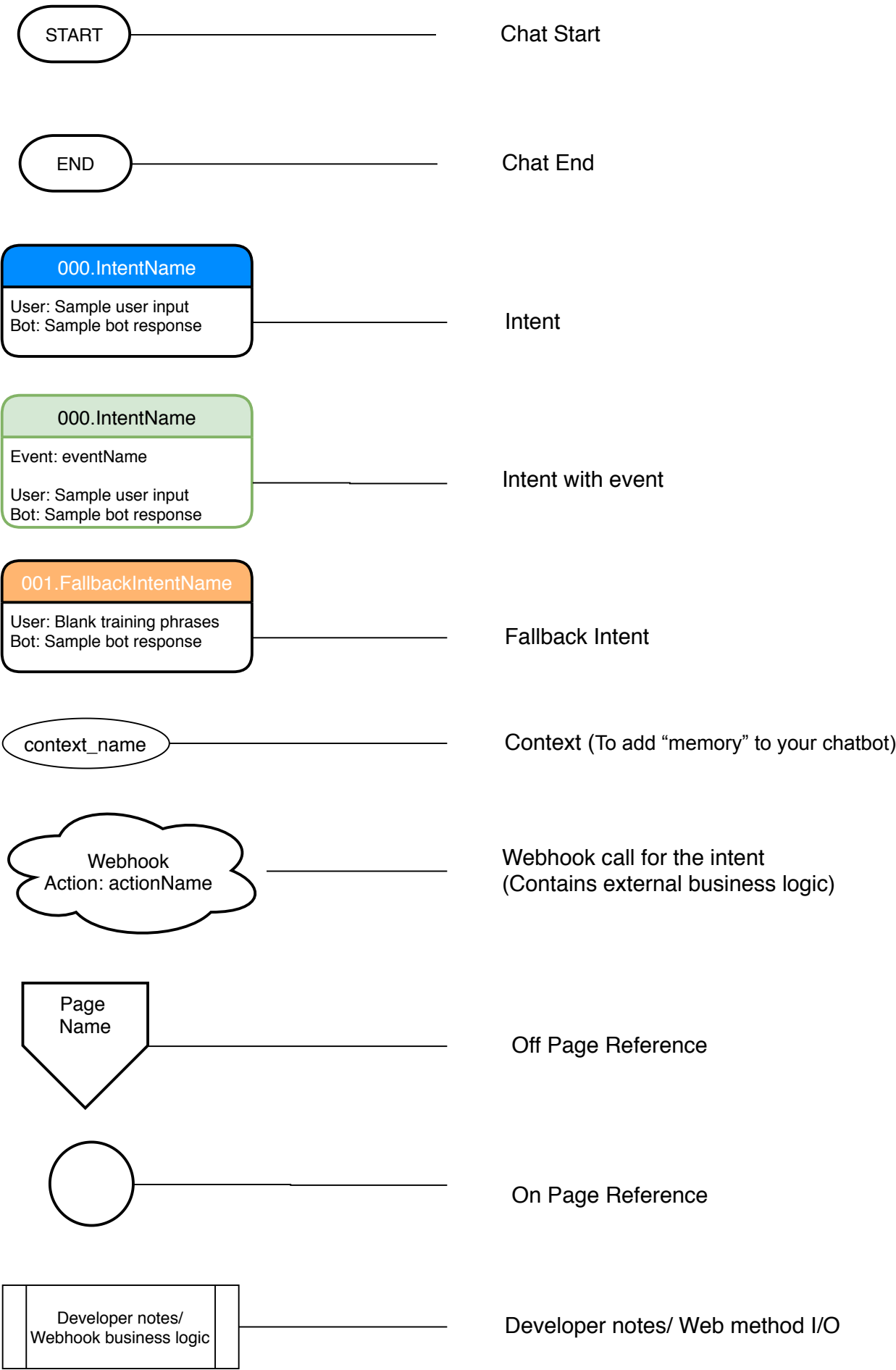
Using Training Phrases to Improve the Intent Matching:

1. Classify your intent as general purpose and special purpose intents
2. Add training phrases to general purpose intents with broader scope. This is helpful when user is not precise in his requirements.
3. Add training phrases with more narrow scope, this is helpful when user is very specific about his requirements.
4. For each intent add fallback intent and add negative training phrases to them. Again follow the same guideline as per the scope of the fallback intent.

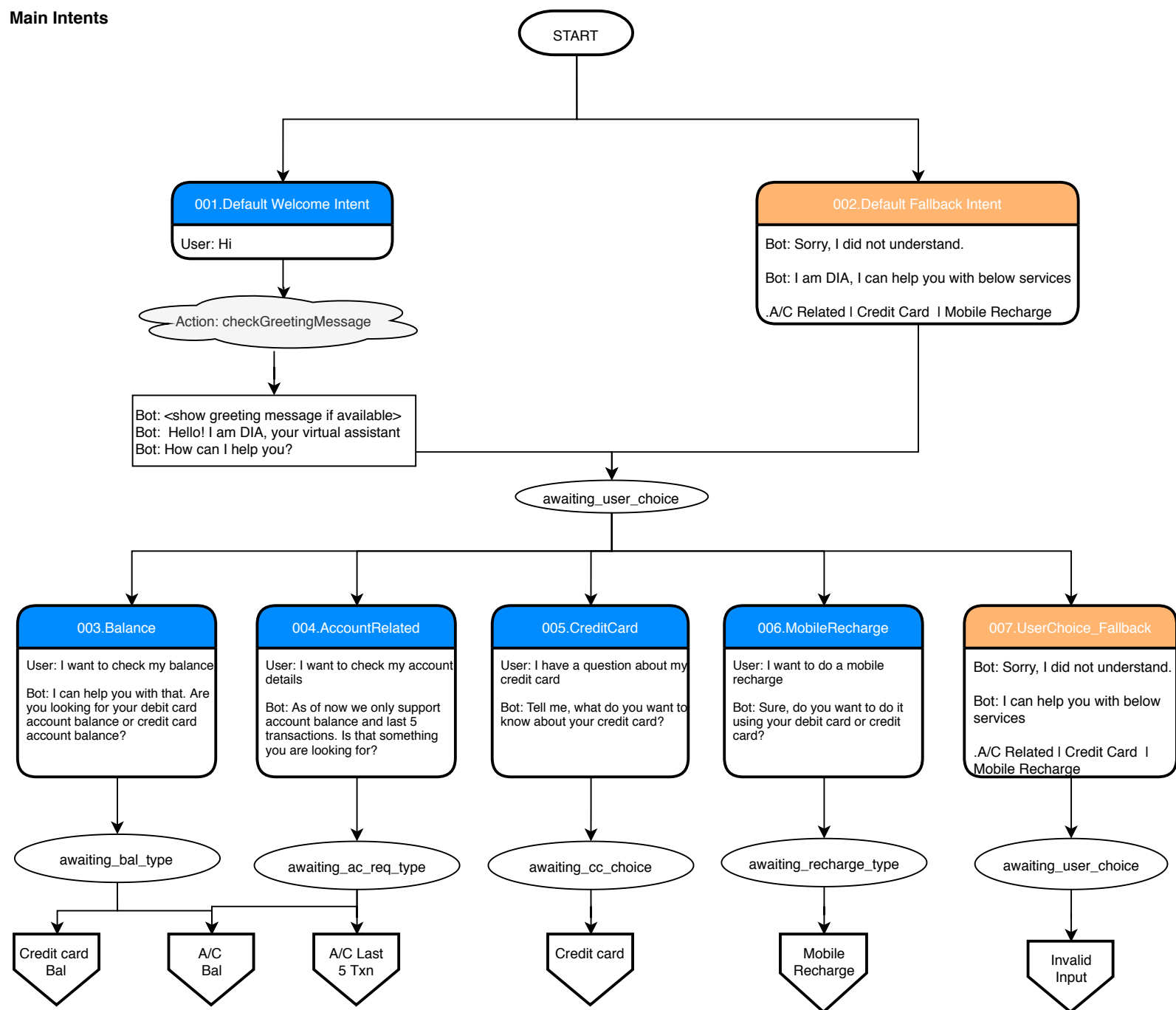
Using Context To Improve The Intent matching:

1. At the start of the flow all the contexts are enabled, means all the intents are available for user input matching.
2. But whenever users intentions are identified we can play with the context to disable few intents so that we can improve the intent matching accuracy
3. Split the application into multiple small states. Each state should define one complete functionality. e.g. account balance
4. Use main intents(general purpose intents) to understand user requirement and then direct him to specific purpose intent
5. Now whenever user is in main intent, depending on the business logic we can enable and disable few contexts in order to increase the intent matching accuracy of relevant intent. e.g. If user in 'AccountRelated' main intent, now we know that user is looking for something related to accounts. So in order to increase the chances of account related intent we can disable 'credit card' related context. But in case user decides to leave account related request in between and jumps to 'credit card' related flow then we can ask for users confirmation for leaving current request unfinished and enable the 'credit card' context.

Legends



Main Intents



Training Phrases Guideline:

1. 001.Default Welcome Intent> Define conversation starter training phrases like Hi, howdy, hi there, hey, hello....

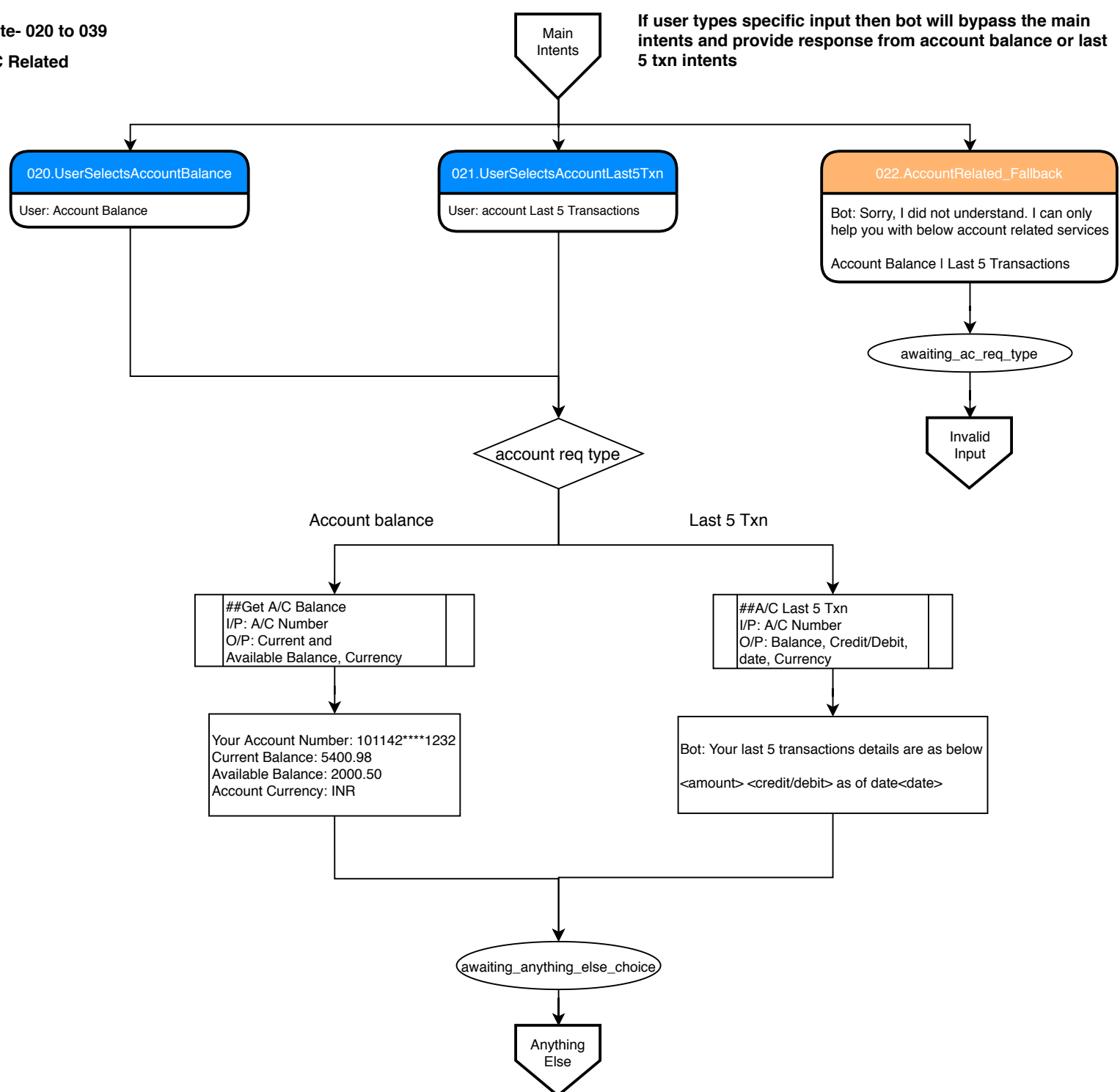
2. 003.Balance> Make sure to have word 'balance' in every training phrase. This way we will get the highest confidence score in case of general balance related user query.

3. 004.AccountRelated> Make sure to have word 'account' in every training phrase. This way we will get the highest confidence score in case of general account related user query.

4. 005.CreditCard> Make sure to have a word 'credit card' and 'CC' in every training phrase. This way we will get the highest confidence score for credit card related user query.

5. 006.MobileRecharge> Make sure to have a words 'mobile' and 'recharge' in every training phrase. This way we will get the highest confidence score for mobile recharge related user query.

General idea behind creating main intent and their training phrases is to capture user intent in case user is not very specific about his requirement. Then we can ask more question to user in order to find out what exactly he/she want.



Training Phrases Guideline:

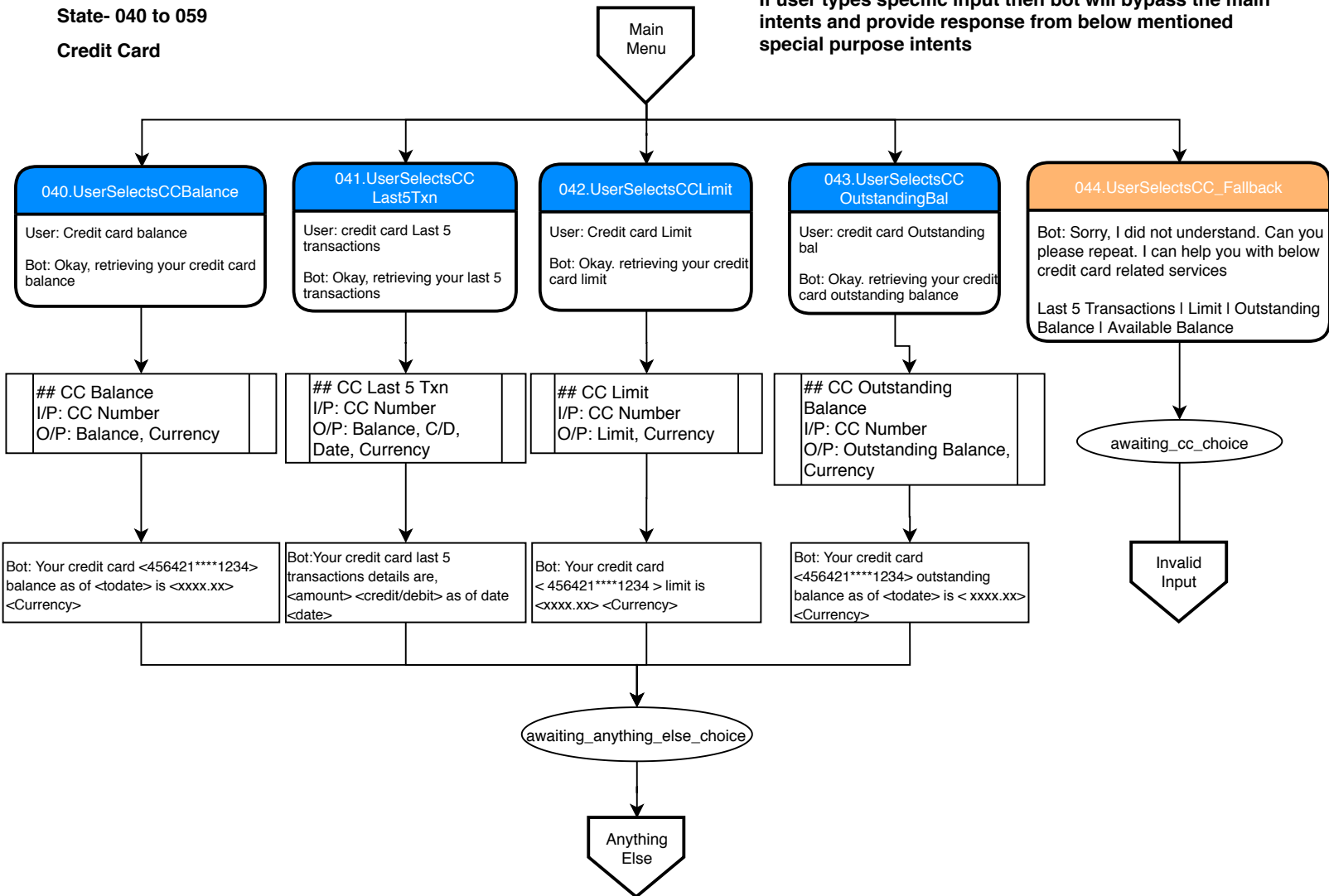
1. 020.UserSelectsAccountBalance> This is special purpose intent, so define the training phrases with words like 'savings account balance', 'current account balance', 'CASA balance', 'my salary account balance'. These type of training phrases will provide higher confidence score if user provide very specific input like 'I want to know my salary acnt bal'. This will help us to bypass general purpose intent like '004.AccountRelated' and directly provide response from special purpose intents.

2. 021.UserSelectsAccountLast5Txn> This is special purpose intent, so define the training phrases with words like 'savings account last 5 transactions', 'current account statement', 'CASA last few transactions'. These type of training phrases will provide higher confidence score if user provide very specific input like 'I want to know my last 5 transactions of savings account'. This will help us to bypass general purpose intent like '004.AccountRelated' and directly provide response from special purpose intents.

General idea behind creating special purpose intent and their training phrases is to capture user intent when user is very specific about his requirement. In such cases we want our special purpose intent to get hit so that we can help customer without asking any further questions.

State- 040 to 059
Credit Card

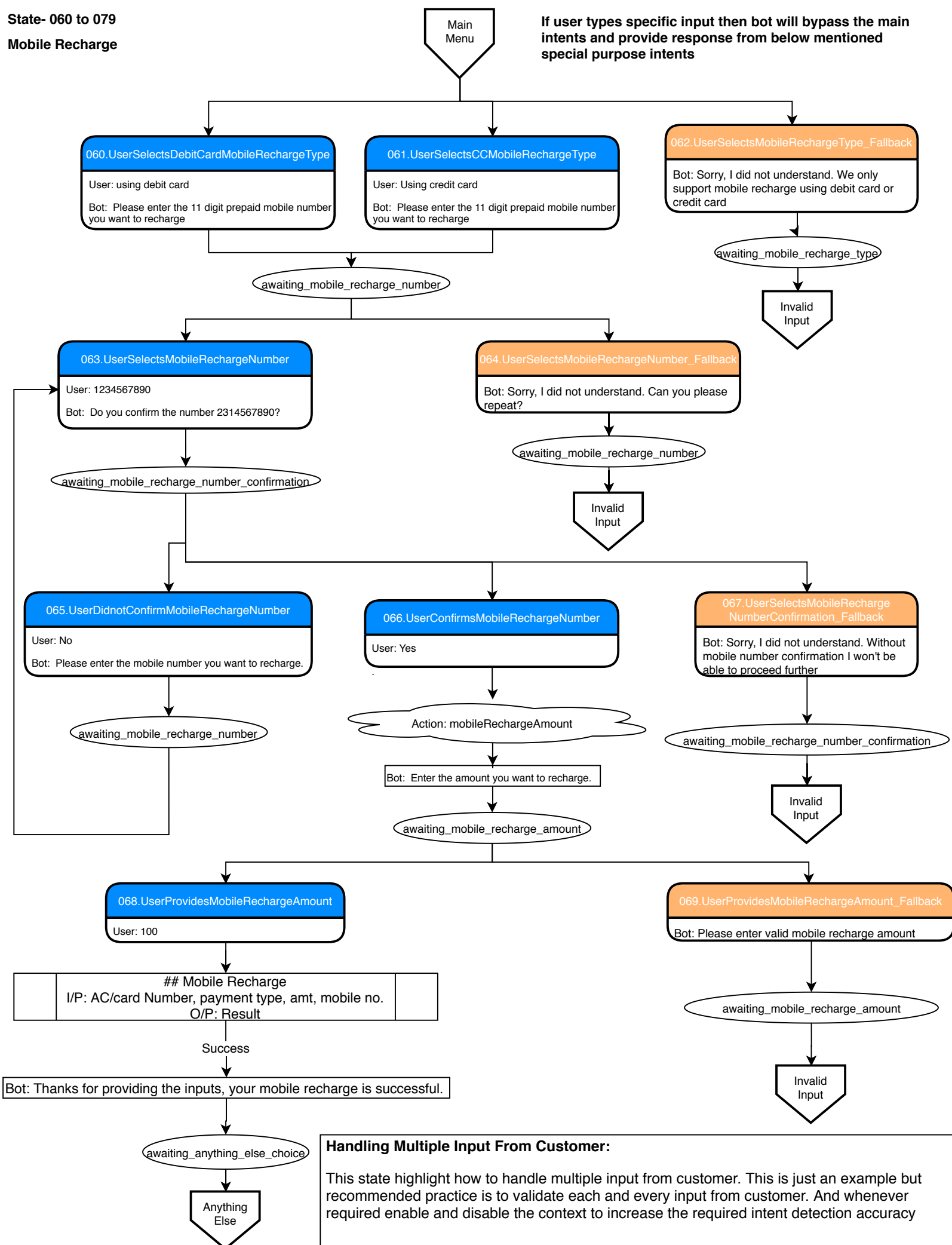
If user types specific input then bot will bypass the main intents and provide response from below mentioned special purpose intents



Training Phrases Guideline:

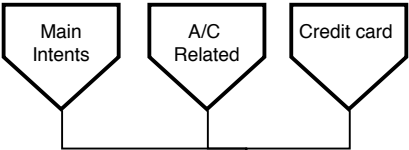
Same like account related state, general idea behind creating special purpose intent and their training phrases is to capture user intent when user is very specific about his requirement. In such cases we want our special purpose intent to get hit so that we can help customer without asking any further questions.

If user types specific input then bot will bypass the main intents and provide response from below mentioned special purpose intents



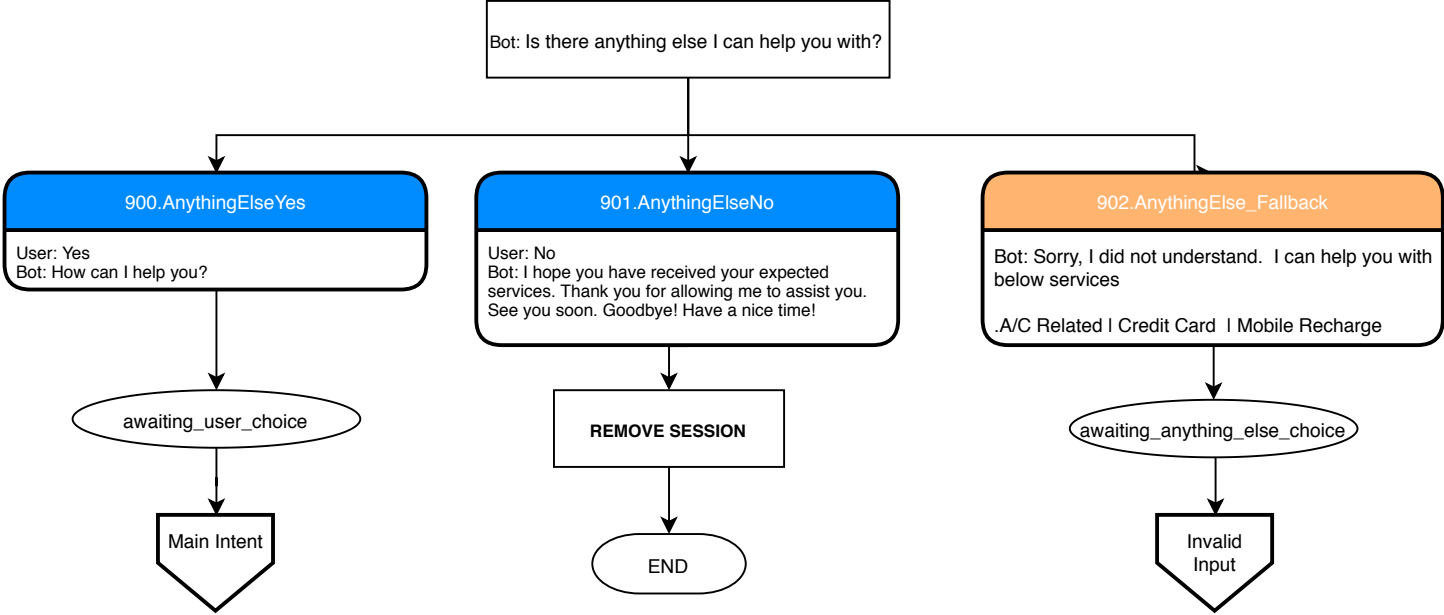
State- 900 to 909

AnythingElse



Whenever user comes to AnythingElse state all the context are enabled so that all the intents are available for matching the user input.

Same like main intent, user input can be matched with general purpose or specific purpose intents from here.



State- 910 to 919

Invalid Input

