**ACT Holdings IVA**

# Situational Design

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# Introduction

This document provides the “situational design” for the ACT Holdings IVA - a Twilio Autopilot Bot.

Situational design is a voice-first method of designing voice user interfaces. To keep the design focused, a simple dialog referred to as the “happy path” is used to guide the design. Each interaction between the user and the bot represents a conversational “turn”. Each turn has a situation that represents the application state or context. For example, if it’s the user's first time interacting with the bot, there is a set of data that is unknown. So, the situation is that information needs to be collected. If the user is in the middle of a dialog, the situation might be that some or all of the necessary information is available. The situation drives the dialog and the bots “next steps”.

# Happy Path

BOT: Hello. Thank you for calling {ClientName}.  
Let me check your account using the phone number you are calling from.

Is your name {ClientName}?

USER: Yes

BOT: For your account verification say 5 digits of your Zip code or last 4 digits of your Social Security number.

USER: {SSN} or {ZIP}

BOT: The number entered is correct.  
Your Total balance is {ClientBalance}.

To make a payment using credit card say “credit card”,

to make a payment using ACH say “ACH” ,

for our website address say “Website Address”,

for out mailing address say “Mailing Address”,

to speak to a Representative say “Representative” or “Agent”.

**CASE: Credit Card Partial Payment**

USER: Credit Card

BOT: You chose to pay with a credit card.  
To pay your balance, in full of {BalanceFull} say “Pay Full”.

To make a payment in an amount less than the full balance of

{BalanceInFull}, say “Pay Partial”.

USER: Pay Partial

BOT: You will now be asked to tell me the amount of your payment including both dollars and cents.

Please tell me the payment amount now.

USER: {Payment Amount} Example: 34 Dollars and 50 cents

BOT: Your payment amount is {PaymentAmount}.  
Do you want to proceed?

USER: Yes

BOT: We will need your credit card information. Tell me the Credit Card number.

USER: {cc\_number}

BOT: You said {cc\_number}.  
Is that correct?

USER: Yes

BOT: Alright. Tell me your card expiration date. The month and the year. Example, March 2026.

USER: {exp\_date}

BOT: You said {exp\_date}.  
Is that correct?

USER: Yes

BOT: Alright. Tell me your CVV number located at the back of your card.

USER: {cvv\_number}

BOT: You said {cvv\_number}.  
Is that correct?

USER: Yes

BOT: Before I process your payment, Let’s confirm-Today’s date is, {CurrentDate}. You are authorizing the payment of {PaymentAmount} to be taken from your {TypeOfPayment} account ending in , {last\_four\_digits}.

Do you want to authorize us to proceed with this payment?

USER: Yes

BOT: Alright. Let us process the payment.

This will confirm your payment transaction.

Do you need additional help?

USER: Yes

BOT: Please hold while we connect you with an account representative. This call may be monitored and recorded, for quality assurance purposes.

<Transfers to an agent>

**CASE: ACH Full Payment**

USER: ACH

BOT: You chose to pay with ACH.  
To pay your balance, in full of {BalanceFull} say “Pay Full”.

To make a payment in an amount less than the full balance of

{BalanceInFull}, say “Pay Partial”.

USER: Pay Full

BOT: Your payment amount is {PaymentAmount}.  
Do you want to proceed?

USER: Yes

BOT: We will need your bank account information. Tell me the Routing number.

USER: {bank\_routing\_number}

BOT: You said {bank\_routing\_number}.  
Is that correct?

USER: Yes

BOT: Alright. Tell me your bank account number.

USER: {bank\_acc\_number}

BOT: You said {bank\_acc\_number}.  
Is that correct?

USER: Yes

BOT: Alright. Tell me your bank account type by saying “checking” for checking account “savings” for savings account.

USER: {bank\_acc\_type}

BOT: You said {bank\_acc\_type}.  
Is that correct?

USER: Yes

BOT: Before I process your payment, Let’s confirm-Today’s date is, {CurrentDate}. You are authorizing the payment of {PaymentAmount} to be taken from your {TypeOfPayment} account ending in , {last\_four\_digits}.

Do you want to authorize us to proceed with this payment?

USER: Yes

BOT: Alright. Let us process the payment.

This will confirm your payment transaction.

Do you need additional help?

USER: No

BOT: Thank you for calling {ClientName}. GoodBye.

<End of call>

# 

# 

# Autopilot Tasks

|  |  |
| --- | --- |
| **Task** | **Description** |
| [greeting](#_k5x1dxz9qp81) | Handles bot initiation |
| [yes\_no](#_1s6vtlrj3loy) | Handles yes/no responses |
| [agent\_transfer](#_3cccm5hugmvl) | Handles call transfers to an agent |
| [phone\_check](#_l4v8lqoluz89) | Checks a phone number against an API. |
| [account\_check](#_8anmdyrm4obz) | Checks an account number against an API. |
| [zip\_ssn\_check](#_c5rymkas1lsy) | Checks and verifies the user with SSN or ZIP. |
| [provide\_info](#_nbgupjnag0e5) | Provides information about website and mailing addresses. |
| [check\_payment\_method](#_ptwc03m9wiac) | Verifies the payment method. |
| [make\_payment](#_8jfxyq1t3iqn) | Verifies the amount of payment and prompts for corresponding information. |
| [check\_amount](#_smz83s65ik6b) | Checks if the payment amount is valid. |
| [check\_cc](#_oadt048maj85) | Checks the credit card number. |
| [check\_exp\_date](#_sws019mu0q18) | Checks the credit card expiration date. |
| [check\_cvv](#_hhm2ib6b3vxk) | Checks the credit cvv number. |
| [check\_routing\_number](#_sabu7i8v5iwi) | Checks the bank routing number. |
| [check\_bank\_acc\_number](#_2c2np7594mqn) | Checks the bank account number. |
| [check\_bank\_acc\_type](#_cq5rl6e692di) | Checks the bank account type. |
| [confirm\_payment](#_5s7swhole31e) | Confirm the status of the payment. |
| [agent\_transfer](#_3cccm5hugmvl) | Transfer to an agent |
| [goodbye](#_8suw8hmeaauy) | Conclude call |

# 

## TASK: greeting

The greeting task is the bot entry/initiation point. It will check the caller number and set the corresponding variables from the provided API.

|  |  |
| --- | --- |
| **Situation** | **User phone number available.** |
| Utterance | None. User was transferred to the bot. |
| Response | Thank you for calling {ClientName}. Let me check your account using the phone number you are calling from. |
| Prompt | None. Transfer to [TASK: phone\_check](#_l4v8lqoluz89). |

|  |  |
| --- | --- |
| **Situation** | **User phone number unavailable.** |
| Utterance | None. User was transferred to the bot. |
| Response | Thank you for calling. Let me check your account using the phone number you are calling from. |
| Prompt | Please tell me the phone number. |

|  |  |
| --- | --- |
| **Situation** | **User variables failed to set.** |
| Utterance | None. User was transferred to the bot |
| Response | Sorry, we encountered a technical issue, transferring you to an agent. |
| Prompt | None. Transfer to [TASK: agent\_transfer](#_4hyok0dvbnki). |

## TASK: phone\_check

The phone\_check task checks the caller number and sets the corresponding variables from the provided API, if available.

|  |  |
| --- | --- |
| **Situation** | **Found an account. Active.** |
| Utterance | {phone\_number} or transfer from task. |
| Response | None. |
| Prompt | Is your name {ClientName}? |

|  |  |
| --- | --- |
| **Situation** | **Found an account. Inactive.** |
| Utterance | {phone\_number} or transfer from task. |
| Response | The account number you entered {phone\_number}, is not active. |
| Prompt | Do you need additional assistance? |

|  |  |
| --- | --- |
| **Situation** | **Failed to find an account.** |
| Utterance | {phone\_number} or transfer from task. |
| Response | We are not able to find your account using the phone number you are calling from. |
| Prompt | Please say your Account Number located in the upper right corner of the letter, starting with the first numerical digit. |

# 

## TASK: account\_check

The account\_check task checks verifies the caller with the account information.

|  |  |
| --- | --- |
| **Situation** | **Technical Issue.** |
| Utterance | {account\_number} |
| Response | Sorry, we encountered a technical issue, transferring you to an agent. |
| Prompt | None. Transfer to [TASK: agent\_transfer](#_4hyok0dvbnki). |

|  |  |
| --- | --- |
| **Situation** | **Found an account. Inactive.** |
| Utterance | {account\_number} |
| Response | The account number you entered {account\_number} is not active. |
| Prompt | Do you need additional assistance? |

|  |  |
| --- | --- |
| **Situation** | **Found an Account. Active.** |
| Utterance | {account\_number} |
| Response | None. |
| Prompt | Is your name {ClientName}? |

# 

## TASK: zip\_ssn\_check

The zip\_ssn\_check task checks verifies the caller identity with their ZIP or SSN number.

|  |  |
| --- | --- |
| **Situation** | **Numbers match the records.** |
| Utterance | ZIP or SSN |
| Response | The number entered is correct. Your Total balance is {ClientBalance}. |
| Prompt | To make a payment using credit card say “credit card”,  to make a payment using ACH say “ACH” ,  for our website address say “Website Address”,  for out mailing address say “Mailing Address”,  to speak to a Representative say “Representative” or “Agent”. |

|  |  |
| --- | --- |
| **Situation** | **Numbers don’t match the records.** |
| Utterance | ZIP or SSN |
| Response | I am sorry but that account number does not match our records. |
| Prompt | None. Transfer to [TASK: agent\_transfer.](#_3cccm5hugmvl) |

# 

## TASK: provide\_info

The provide\_info task provides the verified user with the corresponding information.

|  |  |
| --- | --- |
| **Situation** | **Website Address** |
| Utterance | Pay online |
| Response | To make a payment online please visit {OnlinePaymentURL}. |
| Prompt | None. Transfer to [TASK: goodbye](#_8suw8hmeaauy). |

|  |  |
| --- | --- |
| **Situation** | **Mailing Address** |
| Utterance | Mail address |
| Response | You can mail in a check at the following address, {MailingAddress}. |
| Prompt | None. Transfer to [TASK: goodbye](#_8suw8hmeaauy). |

# 

## TASK: check\_payment\_method

The check\_payment\_method task verifies the method of payment to be made by the user.

|  |  |
| --- | --- |
| **Situation** | **Credit Card** |
| Utterance | Credit card |
| Response | You chose to pay with a credit card. To pay your balance, in full of {BalanceFull} say “Pay Full”.  To make a payment in an amount less than the full balance of  {BalanceInFull}, say “Pay Partial”. |
| Prompt | None. Transfer to [TASK: make\_payment](#_xsejc0uqaxxs). |

|  |  |
| --- | --- |
| **Situation** | **ACH** |
| Utterance | ACH |
| Response | You chose to pay with ACH.  To pay your balance, in full of {BalanceFull} say “Pay Full”.  To make a payment in an amount less than the full balance of  {BalanceInFull}, say “Pay Partial”. |
| Prompt | None. Transfer to [TASK: make\_payment](#_xsejc0uqaxxs). |

# 

## TASK: make\_payment

The make\_payment task verifies the amount of payment and prompts for corresponding information.

|  |  |
| --- | --- |
| **Situation** | **Credit Card. Full Payment.** |
| Utterance | Pay Full |
| Response | To pay the amount of {BalanceFull}, we will need your credit card information. |
| Prompt | Tell me the Credit Card number. |

|  |  |
| --- | --- |
| **Situation** | **Credit Card. Partial Payment.** |
| Utterance | Pay Partial |
| Response | You will now be asked to tell me the amount of your payment including both dollars and cents. |
| Prompt | Please tell me the payment amount now. |

|  |  |
| --- | --- |
| **Situation** | **ACH. Full Payment.** |
| Utterance | Pay Full |
| Response | To pay the amount of {BalanceFull}, will need your Bank information. |
| Prompt | Tell me the routing number. |

|  |  |
| --- | --- |
| **Situation** | **ACH. Partial Payment.** |
| Utterance | Pay Partial |
| Response | You will now be asked to tell me the amount of your payment including both dollars and cents. |
| Prompt | Please tell me the payment amount now. |

# 

## TASK: check\_amount

The check\_amount task checks the partial payment amount.

|  |  |
| --- | --- |
| **Situation** | **Amount is correct.** |
| Utterance | {PaymentAmount} |
| Response | Your payment amount is {PaymentAmount}. |
| Prompt | Do you want to proceed? |

|  |  |
| --- | --- |
| **Situation** | **Amount is incorrect.** |
| Utterance | {PaymentAmount} |
| Response | Your payment amount is incorrect. |
| Prompt | None. Transfer to [TASK: agent\_transfer.](#_3cccm5hugmvl) |

# 

## TASK: check\_cc

The check\_cc task checks the credit card number.

|  |  |
| --- | --- |
| **Situation** | **Credit Card Payment.** |
| Utterance | {cc\_number} |
| Response | You said {cc\_number}. |
| Prompt | Is that correct? |

## TASK: check\_exp\_date

The check\_exp\_date task checks the credit card expiration date.

|  |  |
| --- | --- |
| **Situation** | **Credit Card Payment.** |
| Utterance | {exp\_date} |
| Response | You said {exp\_date}. |
| Prompt | Is that correct? |

## TASK: check\_cvv

The check\_cvv task checks the credit card cvv.

|  |  |
| --- | --- |
| **Situation** | **Credit Card Payment.** |
| Utterance | {cvv\_number} |
| Response | You said {cvv\_number}. |
| Prompt | Is that correct? |

## TASK: check\_routing\_number

The check\_routing\_number task checks the bank routing number.

|  |  |
| --- | --- |
| **Situation** | **ACH Payment.** |
| Utterance | {bank\_routing\_number} |
| Response | You said {bank\_routing\_number}. |
| Prompt | Is that correct? |

## TASK: check\_bank\_acc\_number

The check\_bank\_acc\_number task checks the bank account number.

|  |  |
| --- | --- |
| **Situation** | **ACH Payment.** |
| Utterance | {bank\_acc\_number} |
| Response | You said {bank\_acc\_number}. |
| Prompt | Is that correct? |

## TASK: check\_bank\_acc\_type

The check\_bank\_acc\_type task checks the bank account type.

|  |  |
| --- | --- |
| **Situation** | **ACH Payment.** |
| Utterance | {bank\_acc\_type} |
| Response | The account type is {bank\_acc\_type}. |
| Prompt | Is that correct? |

## TASK: confirm\_payment

The confirm\_payment task confirms the success of the payment, if not failed.

|  |  |
| --- | --- |
| **Situation** | **Payment Successful.** |
| Utterance | None. transferred from the previous task. |
| Response | This will confirm your payment transaction. |
| Prompt | Do you need additional help? |

|  |  |
| --- | --- |
| **Situation** | **Payment Failed.** |
| Utterance | None. transferred from the previous task. |
| Response | Something went wrong. |
| Prompt | None. Transfer to [TASK: agent\_transfer](#_chlfo3vhdoiz). |

## TASK: yes\_no

The yes-no task handles cases when a user responds to a yes/no question.

|  |  |
| --- | --- |
| **Situation** | **User said “yes” when asked if it is their name.** |
| Utterance | Yes |
| Response | For your account verification say 5 digits of your Zip code or last 4 digits of your Social Security number. |
| Prompt | None. Transfer to [TASK: ZIP\_SSN\_check](#_c5rymkas1lsy). |

|  |  |
| --- | --- |
| **Situation** | **User said “no” when asked if it is their name.** |
| Utterance | No |
| Response | None. |
| Prompt | None. Transfer to [TASK: agent\_transfer](#_4hyok0dvbnki). |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “yes” when asked to confirm their payment amount.** |
| Utterance | Yes |
| Response | We will need your credit card information. Tell me the Credit Card number. |
| Prompt | None. Handled by check\_cc. |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “no” when asked to confirm their payment amount.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the payment amount again. |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “yes” when asked to confirm their credit card number.** |
| Utterance | Yes |
| Response | Alright. |
| Prompt | Tell me your card expiration date. The month and the year. Example, March 2026. |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “no” when asked to confirm their credit card number..** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the credit card number again. |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “yes” when asked to confirm their credit card expiration date.** |
| Utterance | Yes |
| Response | Alright. |
| Prompt | Tell me your CVV number located at the back of your card. |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “no” when asked to confirm their credit card expiration date.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the expiration date again. |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “yes” when asked to confirm their credit card CVV.** |
| Utterance | Yes |
| Response | Before I process your payment, Let’s confirm-Today’s date is, {CurrentDate}. You are authorizing the payment of {PaymentAmount} to be taken from your {TypeOfPayment} account ending in , {last\_four\_digits}. |
| Prompt | Do you want to authorize us to proceed with this payment? |

|  |  |
| --- | --- |
| **Situation** | **CC case. User said “no” when asked to confirm their credit card CVV.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the credit card CVV again. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “yes” when asked to confirm their payment amount.** |
| Utterance | Yes |
| Response | We will need your bank account information. Tell me the Routing number. |
| Prompt | None. Handled by check\_routing\_number.. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “no” when asked to confirm their payment amount.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the bank routing number again. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “yes” when asked to confirm their bank routing number.** |
| Utterance | Yes |
| Response | Alright. |
| Prompt | Tell me your bank account number. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “no” when asked to confirm their bank routing number.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the bank routing number again. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “yes” when asked to confirm their bank account number.** |
| Utterance | Yes |
| Response | Alright. |
| Prompt | Tell me your bank account type by saying “checking” for checking account “savings” for savings account. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “no” when asked to confirm their bank account number.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the bank account number again. |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “yes” when asked to confirm their bank account type.** |
| Utterance | Yes |
| Response | Before I process your payment, Let’s confirm-Today’s date is, {CurrentDate}. You are authorizing the payment of {PaymentAmount} to be taken from your {TypeOfPayment} account ending in , {last\_four\_digits}. |
| Prompt | Do you want to authorize us to proceed with this payment? |

|  |  |
| --- | --- |
| **Situation** | **ACH case. User said “no” when asked to confirm their bank account type.** |
| Utterance | No |
| Response | Alright. |
| Prompt | Please tell me the bank account type again. Say “checking” for checking account “savings” for savings account. |

|  |  |
| --- | --- |
| **Situation** | **User said “yes” when asked to confirm their payment information.** |
| Utterance | Yes |
| Response | Alright. Let us process the payment. |
| Prompt | None. Handled by confirm\_payment. |

|  |  |
| --- | --- |
| **Situation** | **User said “no” when asked to confirm their payment information.** |
| Utterance | No |
| Response | Alright. |
| Prompt | To talk to a representative say “Representative” or “Agent”. |

|  |  |
| --- | --- |
| **Situation** | **User said “yes” when asked if they need any additional help** |
| Utterance | Yes |
| Response | Okay. |
| Prompt | None. Transfer to [TASK: agent\_transfer](#_4hyok0dvbnki). |

|  |  |
| --- | --- |
| **Situation** | **User said “no” when asked if they need any additional help** |
| Utterance | No |
| Response | None. |
| Prompt | None. Transfer to [TASK: goodbye](#_mfz4wgn0sc2). |

# 

## TASK: agent\_transfer

The agent\_transfer task transfers the caller to an agent.

|  |  |
| --- | --- |
| **Situation** | **The call must be transferred to an agent.** |
| Utterance | Agent. |
| Response | Please hold while we connect you with an account representative. This call may be monitored and recorded, for quality assurance purposes. |
| Prompt | None. Transfer call to agent. |

# 

## TASK: goodbye

The goodbye task concludes a call.

|  |  |
| --- | --- |
| **Situation** | **Session complete.** |
| Utterance | Good bye. |
| Response | Thank you for calling {ClientName}. GoodBye. |
| Prompt | None. Hang up. |