

ORACLE

The anatomy of a conversation design project

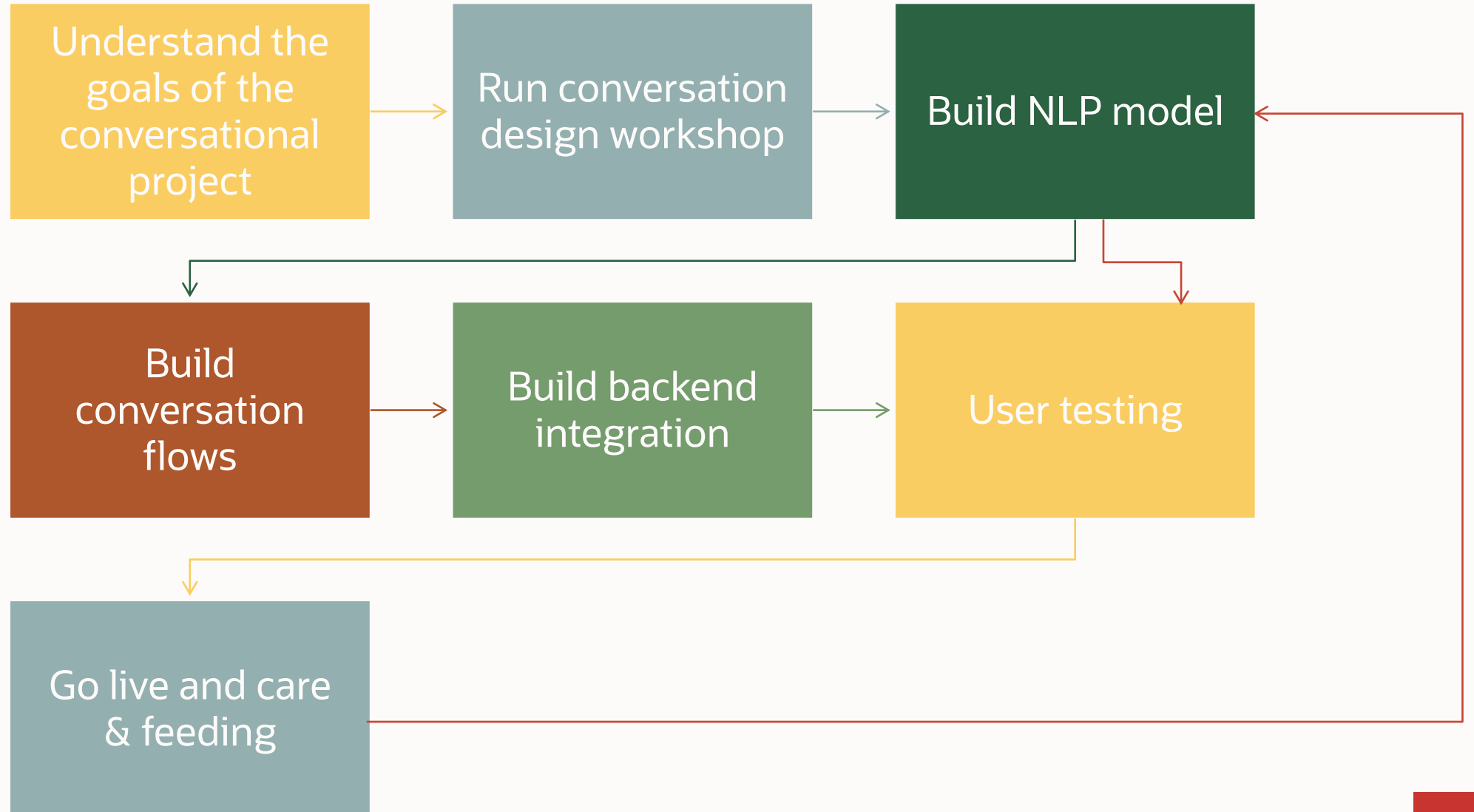
Program agenda

- 1 The conversational project timeline
- 2 The skills you need for a conversational project

Program agenda

- 1 **The conversational project timeline**
- 2 The skills you need for a conversational project

The conversational project timeline

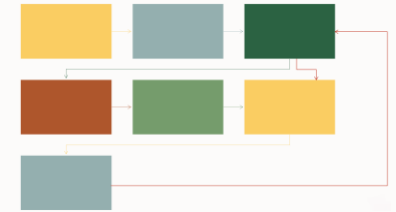


The conversational project timeline

Understand the goals of the conversational project

- Be clear on what you want to achieve
 - Why are you building a conversational assistant?
 - Why is it better than a web app?
 - Why is it better than search?
 - Are you looking to improve customer satisfaction/experience?
 - What is the “sweet spot” you are aiming for?
 - Reduce business load?
 - Smooth spikes in business traffic?
 - Show innovation?
 - New channels?
- Define the use cases, goals and measures of success
- It's fine to have big ideas, but start small and grow as you learn

Understand the goals of the conversational project



The conversational project timeline

Run conversation design workshop

- Design the conversational experience
 - Who is your digital assistant?
 - Persona?
 - How does it deal with help, failure, misunderstanding
 - Who is your user?
 - How do you expect users to act or respond?
 - What are their expectations?
 - What do you want them to feel?
 - Design the conversation
 - What does the happy path look like?
 - What does the unhappy path look like?
 - How will you deal with errors, invalid data, off topic requests, requests for help, smalltalk, uncertainty, user frustration
- Test and validate your initial design
 - Wizard of Oz testing, table reads
 - Validate with target audience

Run conversation
design workshop



The conversational project timeline

Build NLP model

- First cut design on NLP model
 - Partition use cases into skills if appropriate
 - Further partition into intents
 - Identify where intents can use entities
 - As a rule, use entities to derive variable information, NOT meaning
- Build and test NLP model
 - Gather utterances
 - Curate, clean, augment and balance
 - 80/20 split for training testing
 - Prove the viability of the model
- Throughout the lifecycle and even after go-live: review, refactor, retrain, test

Build NLP model



The conversational project timeline

Build conversation flows

- Entity slotting will be more difficult than you think
 - “Book a table for 8” 8pm or 8 people?
 - “Create a new task for June” month or person?
 - “Book a flight for my wife and I and 3 children” you can’t just slot “3”
- Understand your entity slotting strategies
 - How do you find, prompt and slot entity values
 - Aggressively research and understand where entity slotting can go wrong
 - Mitigate the unhappy path
 - Validation, auto disambiguation, synonyms, lock-in, progressive help, error handling
- Design flows
 - Modularize and look for reusability
 - Customize through parameters

Build
conversation
flows



The conversational project timeline

Build backend integration

- Identify and build backend integration
 - Which APIs do you need to call?
 - How are they secured?
 - Build “conversation first” facades
- Define your devops plan
 - Deployment strategies

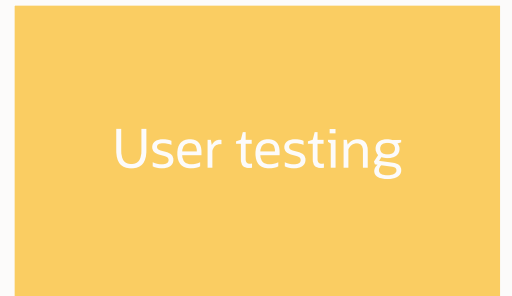
Build backend
integration



The conversational project timeline

User testing

- NLP testing
 - Build NLP test from 80/20 split
 - Build different types of test suites
 - Harvest new quality testing from real users and real logs
 - Always have the ability to quantitatively measure the progress of the model
- Conversation flow testing
 - Ensure repeatable flow tests
 - Investigate where users typically fail or escalate
- User acceptance testing
 - Does the digital assistant meet the user needs?
 - Solve their needs, a personality that engages, helpfulness, empath, natural language
 - Look for the common “red flags”
 - Escalation, frustration, common phrases which are unresolved (e.g. “yes”, “no”, “thanks”)



The conversational project timeline

Go live and care and feeding

- Go live
 - Be pragmatic – “the first day is the worst day”
 - Backup strategy for switching off the digital assistant
 - Have clear development/testing/production instances and processes
- Care and feeding
 - Monitor the digital assistant
 - Periodically go through the conversation logs
 - Identify failure of NLP
 - Identify new use cases
 - Identify key “alarm” points
 - Swearing, frustration, request to speak to human, repeating “locked in” conversations
 - Curate conversation logs into quality utterances and tests
- “Rinse and repeat”

Go live and care
& feeding



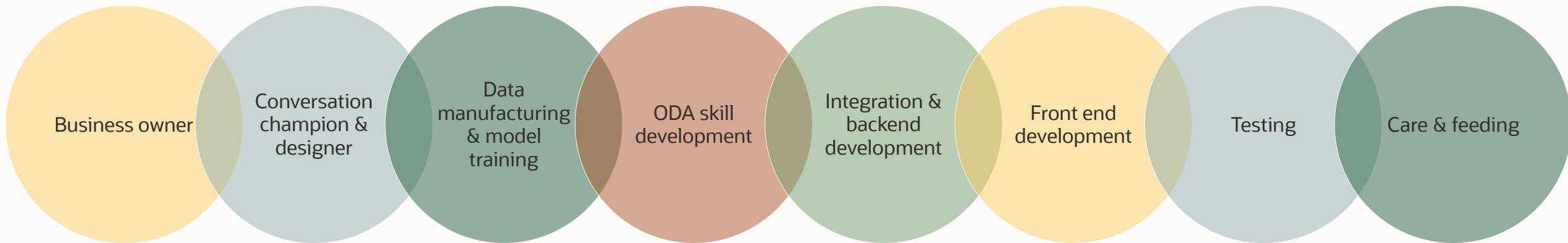
Program agenda

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- 2 **The skills you need for a conversational project**

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Every skill you acquire doubles
you chances of success

The skills you need for a conversational project



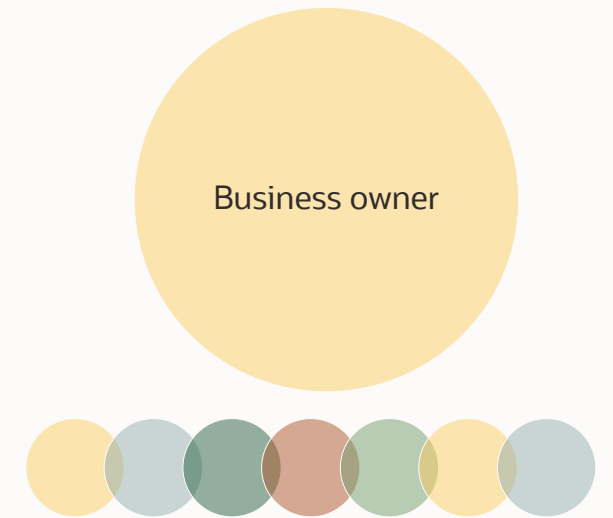
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One person can wear many hats...sometimes at the same time

The skills you need for a conversational project

Business owner

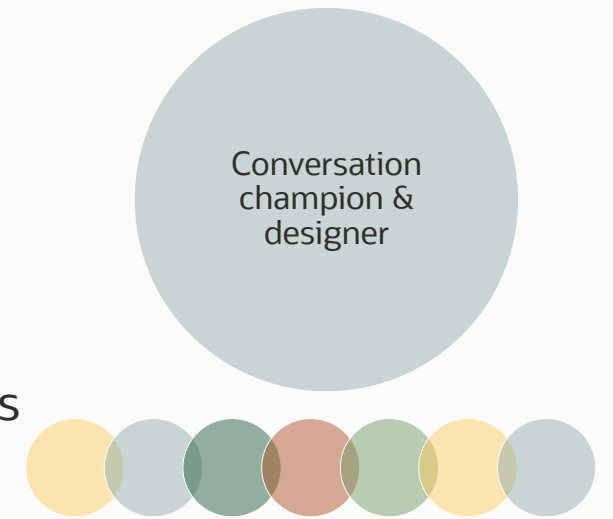
- Responsible for the business success of the project
- Defines the use cases, goals and measures of success
- Understands the domain and the users
 - Works with the conversation designer and champion
 - Define the conversational experience
 - Conversational strategies
 - Works on and supports data manufacturing and NLP training
 - With advice of NLP specialist, will help define the domain of the model
 - Input and review data manufacturing jobs
- Needs to understand where the high bar should be set for conversational experiences
- Acts as project manager to define and oversee
 - Process for quality and governance
 - Data, testing and conversational experience



The skills you need for a conversational project

Conversation champion and designer

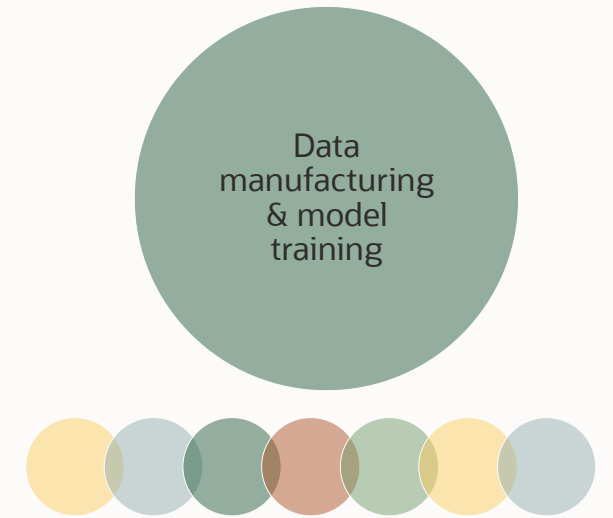
- Helps drive conversational excellence
- Throughout the project pushing the bar higher on ALL conversational aspects
- Brings to the table new ideas, strategies, “could we do this?”
- Run CDX workshops
 - Works with business owner to advise on conversational best practices
 - Steers the business owner to the conversational “sweet spot”
 - Validates the use cases and decisions
 - Teases out the problem areas for agreed strategies
 - Documents and is responsible for the conversational experience
 - Conversation flow, persona, tone of voice, error handling, help, recovery, fall back, discovery strategies
 - Runs early testing/validation
- Works with the NLP champion on disambiguation strategies
- Functions as conversation designer writing bot responses



The skills you need for a conversational project

Data manufacturing and model training

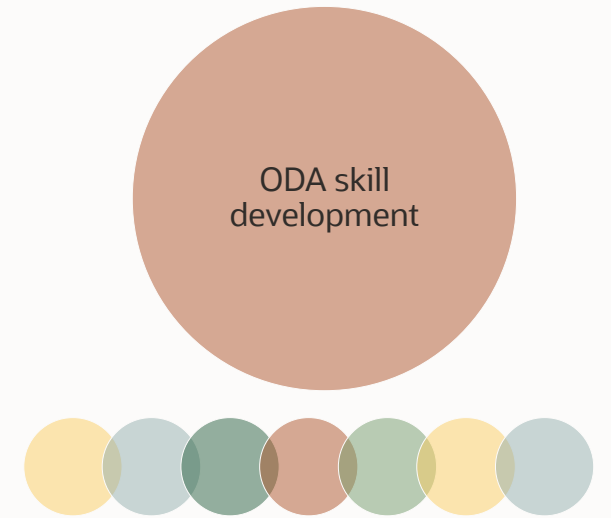
- Responsible for the viability of the NLP model
 - Designs intents
 - Is the gatekeeper for quality utterances and a quality utterances process
 - Responsible for the measures of quality/success of the NLP model
- Works with the business owner to validate and rationalize NLP based on the business domain
 - Do the use case decisions work for the NLP?
- Works with the conversation champion/design on disambiguation and fail strategies
- Works with the business owner for harvesting quality utterances
 - Sets up data manufacturing jobs with high quality guidance/questions
 - Validates, cleans and augments utterances
 - Builds test suites
- Responsible for the quantitative measure of NLP improvements



The skills you need for a conversational project

ODA skill development

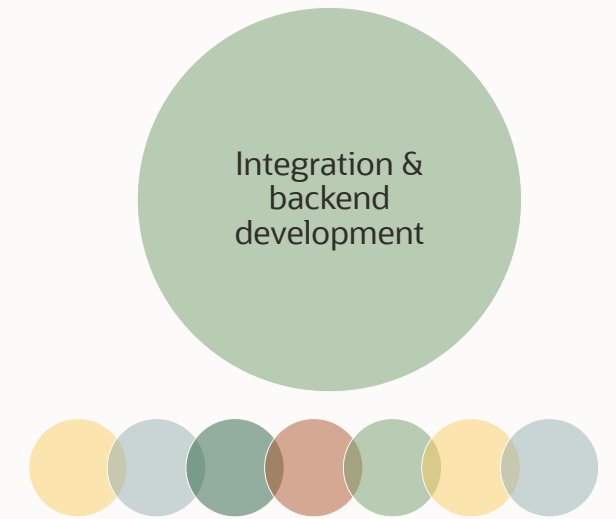
- Is the developer who will build the skill
 - Must be experienced in all aspects of ODA features and best practices
 - Intent design, entities, entity event handles, conversation flow, custom components
- Works with the NLP champion to train and refactor the model
- Works with the conversation designer on implementing flows
 - Entity extraction
 - Includes varied prompting, validation, error handling, disambiguation etc.
 - Conversation flows
 - Designing for reuse and best practice
- Defines development processes on versioning and deployment
- Works with the integration team on calls to the backend
- Advises business owner and conversation champion on platform features to exploit



The skills you need for a conversational project

Integration and backend development

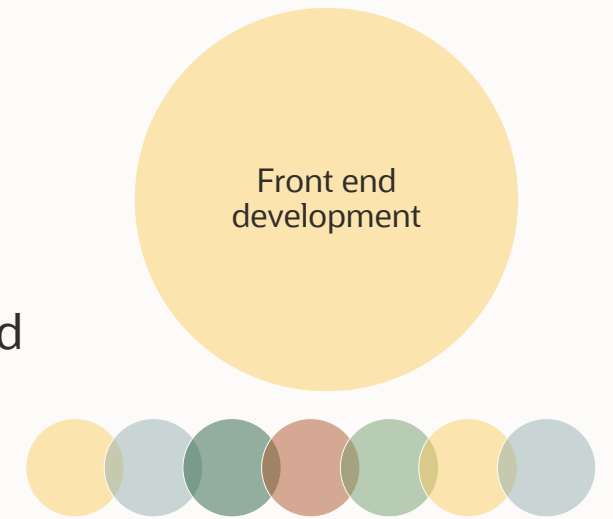
- Responsible for defining the separation of ODA and backend services
 - Identifies backend services and API
 - Designs and implements appropriate API facades
- Advises on enterprise deployment strategies
 - Architecture, security, devops



The skills you need for a conversational project

Front end development

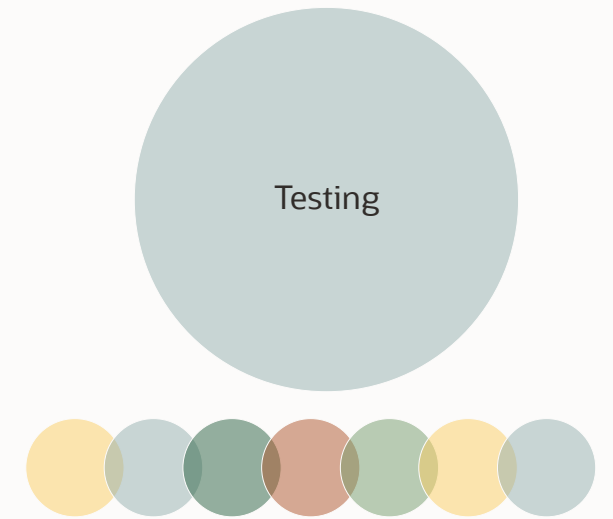
- Responsible for channel(s) through which the digital assistant will be accessed
 - Builds channel specific features
 - Advises on the management and deployment of channels
- Works with and advises ODA developer on adaptive channel requirements
 - Features that are supported/not supported
 - Features which can be exploited to benefit the channel
 - Helps limit the channel dependencies in ODA code



The skills you need for a conversational project

Testing

- Responsible for overall quality of skill through testing
 - Works with conversation designer on early stage testing
 - Wizard of Oz
 - Works with NLP champion on NLP tests
 - Validates quality of tests
 - Run on periodic basis
 - Gathers and reviews history of tests
 - Runs customer and acceptance testing
 - Works with care and feeding on improvements



The skills you need for a conversational project

Care and feeding

- Responsible for continuous improvement from the go-live
 - Review conversation logs
 - Identify failures and new use cases
 - Retrain the digital assistant
- Works closely with other team members to feedback into their areas of interest e.g.
 - **Business owner**
 - Is the digital assistant meeting business needs?
 - New use cases?
 - **Conversation designer/champion**
 - Better handling of confusion or ambiguity
 - **NLP champion**
 - Retraining of the model



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