Chatbot

Project proposal

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Overview

The traditional UI and forms are sometimes boring and hard to use which can cause a gap between the client and the entreprise, This project tires to solve this problem by using a chatbot in social medias like facebook.

Unfortunately this approach can be hard to implement due to the limitation of the NLPs and security risks

Goals

- Replacing the traditional UI with a Chatbot.
- Training the Bot using the new interface.

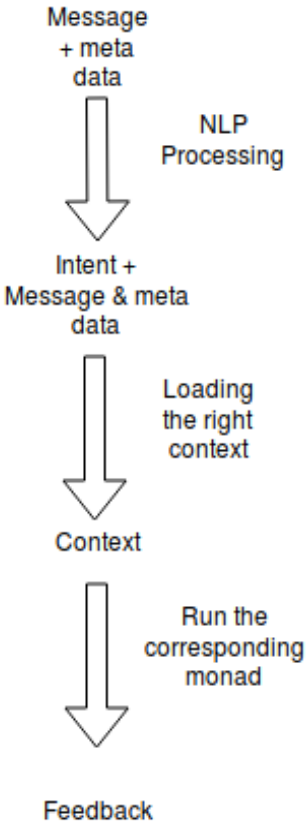
User Stories

- The chatbot can ask the user a questionnaire that can be interrupted and resumed at any time.
- The administrator can ask the bot to answer some specific questions with a predefined answers using the new interface.

Product perspective :

- This system will consist of a web service and a database.
- The web service is written in haskell will process the user’s messages using NLPs.
- The conversation is happening in a different contexts with multiple users, we will need a database to store these contexts.
- The context can be a questionnaire, a simple request or a command.
- The Questionnaire can be formed and checked thanks to EDSL.
- The information flow is controlled and tracked using the haskell library LIO.

Implementation



The user messages will be processed by a third party NLP and a local one if needed in order to get the intent .

Then, The right context is loaded thanks to the produced intent.

And finally, we will run the monad corresponding to the extracted context.

Used Libraries

- Scotty - https://hackage.haskell.org/package/scotty
- Postgresql-orm - https://hackage.haskell.org/package/postgresql-orm
- Chatter “NLP” - https://hackage.haskell.org/package/chatter
- Rest-Client - https://hackage.haskell.org/package/rest-client
- LIO - https://hackage.haskell.org/package/lio

Haskell is a safe language with its strong type system and compile-time. Therefore, it can be a good choice for AI project. Since we will need to secure data and handle side effects :

1- Haskell is good for information flow control.

The software will need to control the information flow seeing that the chatbot need to intact with different types of users.

2- Haskell is good for EDSL

The software can have an EDSL that form a questionnaire and verify the user's answers. Furthermore, I was thinking maybe I can mange to make the chatbot know how to use this EDSL to create new questionnaires.

3- Haskell is a safe language

The interpretation of natural languages is very complex, and it can cause unexpected behaviors.