Assignment 1 – Project Diary

Team Members (Team 7)

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Project Goal

Due to an increase in the customer base of personal loans and debt consolidation company Now Finance, the online customer funnel is experiencing increased traffic. This puts a higher workload on the customer support department of the company, possibly resulting in slower response times and ultimately to a lower perceived customer satisfaction rate. In order to tackle this problem, the goal of this project is to implement a chatbot which will (partially) offset this increase in workload by responding to clients automatically instead of them making use of the resource extensive live chat functionality. By doing so, the company may enjoy a reduction in operational costs, higher customer satisfaction rates and a multi-platform compatible plus 24 hour operational customer service.

Project Value

Value Hypothesis

Describe here what will make this project successful and why it is meant to be successful.

Implement a chatbot which can manage the increasing workload of the customer support department efficiently and effectively to increase customer satisfaction rates and decrease operational costs.

Growth Hypothesis

How this project will continue to live and grow?

After implementation, the company can analyse the newly acquired data and make small alterations where necessary to further increase customer satisfaction rates, as well as implement the chatbot on multiple platforms if the pilot was successful.

Metrics

How will you test/prove whether you are successful?

- With what percentage, if at all, did the relative workload of the customer service department decrease?
- What percentage of customers found the correct answer to his or her question and did not have to ask to be connected to an employee through the Live Chat functionality?
- Are the customers satisfied with the quality of the service?
- To what extent did the chatbot experience technical difficulties?

Project Plan

Communication Strategy

Describe here how do you organise project internal communication (e.g. emails, meetings, or other forms of information exchange).

Our group makes use of a variety of tools in order to optimize our workflow. Our core platform to keep in touch with each other is Slack, where Trello is used as a central spot where we can notify each other about what has to be done and who is currently working on what. Meetings are hosted frequently through Google Hangouts, either with the whole team or certain groups within our team (for example, the backenders and frontenders discussing implementation techniques of a newly designed tool).

Task Management Strategy

Describe here how do you divide the work among the project team members and how will you keep track of the project lifecycle.

Task management, as stated above, is primarily done through Trello. Also, after every meeting with the whole team on Google Hangout, we discuss the tasks at hand for the coming week and divide them accordingly.

Iteration Plans

Describe here how many iterations you plan to use to develop the project and what is the expected result at the end of the iteration. Copy the tables below for as many iterations you plan to do.

N/A. Discuss with the client next week.

Iteration 1	*Put Title here*		
Start Date		*End Date*	
Description			
Result	*What did you achieved, learned? What happened?*		
Follow Up	*Put what will be your next step (Pivot / Persevere).*		

Iteration 2	*Put Title here*		
Start Date		*End Date*	
Description			
Result	*What did you achieved, learned? What happened?*		
Next Step	*Put what will be your next step (Pivot / Persevere).*		

Design

Include information about the general design / gathered requirements etc.

- For demonstrational purposes, we are building a website where we can showcase our Chatbot to the client, but in terms of general design we do not have that many requirements as the Chatbot will be implemented on existing platforms consisting of Facebook Messenger and their own website at first.
- As soon as we had our first meeting with the client, we will know more about possible design requirements or wishes.

Architecture

Overview

As we haven't had the meeting with the client yet, we are experimenting with different forms of implementation before making final architectural decisions. We will update the forms and decisions accordingly.

Put a diagram here containing describing the architecture of the project and explain in a couple of paragraphs what are the key components of the solution and what they do.

Architectural Decisions

List here the key decisions that you have faced from an architectural perspective. Use the template provided as an example to list all the decisions that you think have been relevant in shaping your design and architecture.

Example template:

AD001	*(Title)* ***Choice of the storage technology and model***
Problem Statement	*(What is the problem being addressed?)* *Our application, even though not data-intensive, requires storage for persisting key information that is required for its function. Different storage technologies do provide different approaches to storage and impose different constraints on what can be saved. The choice of the particular storage technology and model will impact the design and implementation of other components of the application.*
Available Options	
Option 1.	***Utilise a Relational Database*** *Description:*

	This solution implies the use of relational data store based on SQL. All the entities of our system will be persisted as records in one or more tables. The solution will have a defined schema for the data model. *Pros:* • *Powerful query language that can be used to operate on the data.* • *Model very simple to understand and known very well by the team.* • *Record validation is performed by the database.* • *Ease of availability of product implementing this model.* *Cons:* • *Customisation of the data model is hard, because the model is optimised for data with regular structure (i.e. records).*
Option 2.	***Utilise a NoSQL / Document Oriented Database*** *Description:* *This solution implies the use of a document-oriented database (NoSQL) such as MongoDB or Cloudant/CouchDB. The entities will be persisted as documents in the database and we will be able to persist different (also user defined) entities within the same containers because no schema is defined.* *Pros:* • *Schema-less implementation.* • *Ease of availability of product implementing this model.* • *Highly scalable solution.* *Cons:* • *Record validation needs to be implemented within the application or by using additional libraries.* • *The capabilities of the query languages differ from product to product as there is no standard in the field.* • *Lack of knowledge of this type of storage model within the team.*
Option 3.	***Utilise a File based System*** *Description:* *This solution implies the use of files to persist entities within our application.* *Pros:* • *The model is easy to customise as we can decide what to store in the file and these can either be records of the same structure or different records.* *Cons:* • *The set of built-in services and capabilities strongly varies from product to product, ranging from simple file access to more sophisticated operations. It might be hard to have available a query language that can be effectively used.* • *The model might not be able to provide backup and custom implementation is needed for this feature.* • *Performance might be another issue on top of custom development for accessing and manipulating the entities in the storage.*
Decision	
Selected Option	*The selected option is **Option 1.***

Justification	*(Explain why you choose that option, essentially what based your decision on).* *Option 1 is particular advantageous because of the nature of the application we're developing. In particular, we do not need to provide user-defined records and the application entities abide to a well-defined structure that is more effectively represented and manipulated trough a relational model.* *Moreover, the team has a well-developed set of skills and expertise with relational database and this will boost the development activities and reduce time.*
Implications	*(Describe the impact of selecting the specific option mentioned above)* *We will need to provision a database solution in the cloud as a service. We might be limited in the choices of available product especially if we want to maintain the solution within one single platform of the cloud computing vendor.* *We will need to find client libraries that enable us to talk to the specific database implementation.*

NOTE: *while developing a project you are implicitly taking these decisions and go through a process that covers the items identified in the template table. The Architectural Decisions artefact (i.e. the collection of tables as the above one, one for each decision) is simply a way for improving the accountability of your actions and reflect more attentively (e.g. by putting pros and cons of the different options on paper) on the choices you make, learn from it and keep it for the future.*

Retrospective

As the project has just started, there is not much to share in this section yet. However, the first few weeks have gone excellent both in terms of performance and communication. The team really seems to be getting along well and we look forward to working on it further in the coming weeks.

Here you are asked to share some thought about the overall process. This should be a critical analysis of how you (as a team) performed to achieve the desired outcome. In particular, some of the elements that may guide you in this discussion are:

- *How you broke down your development process into iterations.*
- *The learning at the end of each iteration.*
- *What went wrong and what went right, what would you have done differently?*
- *Was the original idea sound enough to pursue development successful?*