

## Project Information

### Project Purpose:

The purpose of the project is to develop an AI Help-Desk for the client Tony Wong from Westbourne IT Global Services. The client had requested the implementation of a chatbot, that is to be able to respond to simple IT queries that potential users may ask.

### Project Objectives/Goals:

- Must be represented with a 3D, life-like avatar with life-like animation.
- This avatar must also be gender neutral.
- A means to update and/or add queries/responses into the database.
- The option of keyboard or voice as input.
- Follow the best practices of ITIL.

### Additional Features Requested by the Client:

- The ability for a user to have customized settings, such as light mode or dark mode for the page.
- A selection page where they are able to choose to go for the male/female version of the avatar.
- Login and signup functionality,

### Rationale:

The existing practices within Westbourne IT means that the Tier One support team's time is spent tending to basic queries, such as those centring around email/password settings and resets, and other basic IT queries. Through the implementation of the AI Help Desk, the support team's time would be freed up to tend to more complex work and allow for Westbourne IT to utilize their human resources more efficiently.

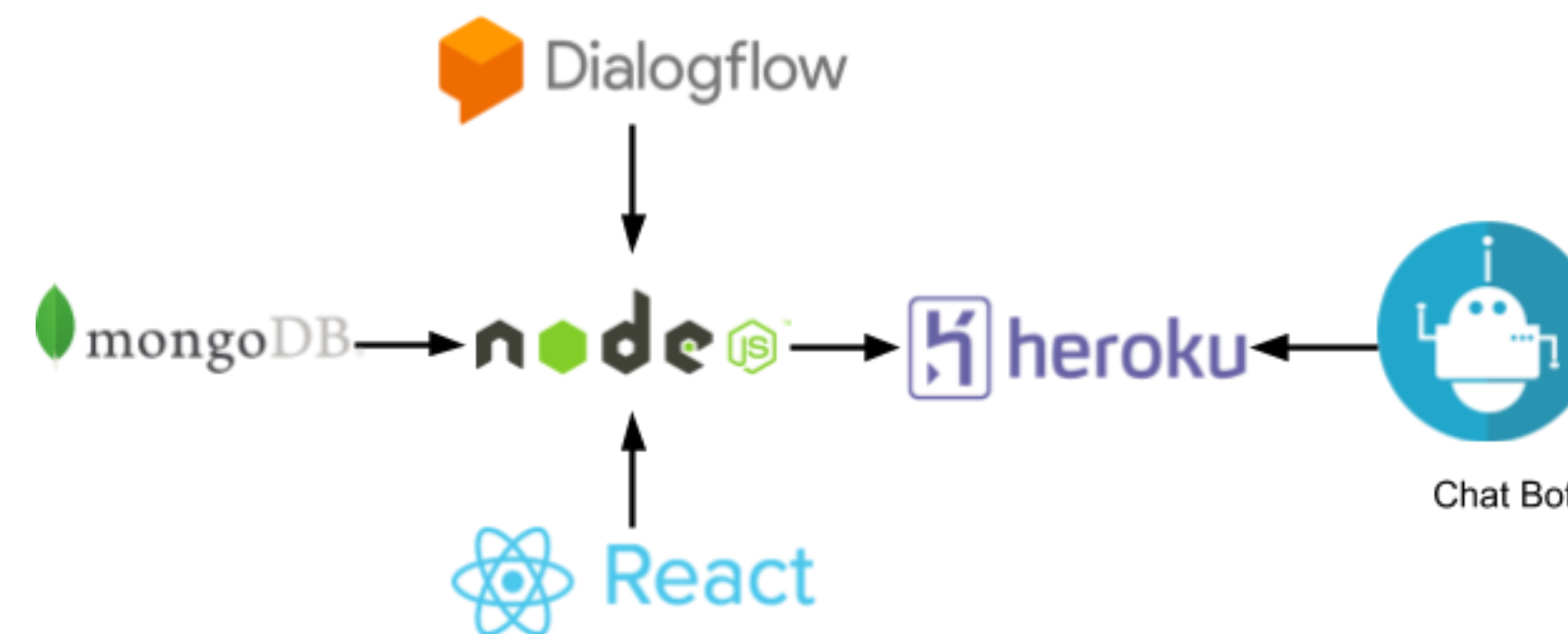
## Method and Artefacts

### Methodology:

Scrum was used to undertake this project due to the incremental nature of development, with every new version introducing new features. Scrum generally promises new features every few weeks, so we adapted this to our timeline to introduce features at a more realistic pace.

### Part 1: Research

Involved extensive research into existing chatbots, device compatibility, web/cloud deployment software, and 3D Animation. The lone artefact produced during this stage was the software we decided to use as shown below.



### What worked well:

Teamwork and effective communication resulted in the ability to decide on a software earlier than expected.

### What didn't work well:

Some of the research resulted in 'dead ends', as the software trialled failed to support some of the required features of the Help Desk.

### Part 2: Upskilling and Development

Involved upskilling in React and applying animation to an SVG file. During this stage, we came up with various prototypes. Artefacts produced were sprint burndown charts, avatar designs, and the prototypes.

### What worked well:

Development process started early and progressed rapidly due to the team collaborating on different aspects of the Help Desk.

### What didn't work well:

Some upskilling was non-essential to the end goal, such as certain React libraries implemented through the development process.

At times, communication with the client was inconsistent, therefore more feedback could've meant a more complete final product.

## Challenges Faced

### Technical Difficulties:

User authentication for login was an area of difficulty as when a user logs it is standard that they remain logged in for the duration of the session until either they choose to log out or the session they are in expires. This resulted in the team utilizing cookies and cookie parsers which allowed a user to remain logged in as when a user logs in a session is created (represented by a cookie) and this session is deleted when it either expires or when the user chooses to log out.

### Learning New Technology (React JS Libraries, CSS):

Heroku Deployment was the greatest technical difficulty as due to Heroku preferring one server file a lot of the interactions with mongoDB with logging, registering, saving ratings/conversations had to have been merged into a single server file. Basic saving, logging in proved successful but during the final sprint when user authentication was implemented the authentication part that checks if a user is logged in did not work this resulted in the team being unable to implement the final version of login to Heroku.

### Non-Technical Difficulties:

- The greatest challenges presented to us were the lockdowns due to the Coronavirus pandemic. Due to this, it resulted in a few difficulties within our team.
- Firstly, we were unable to meet with our client face-to-face as we had planned. This meant a live demonstration wasn't possible early on, only at a later stage, once we had Teams set up and figured out.
- Secondly, we went through a non-productive period due to AUT announcing possible changes to the academic calendar. We were left unsure if we were meant to keep working or not, until our supervisor advised us to. This period lasted for two weeks.
- Lastly, communication was inconsistent during the lockdown periods, as our client's organization had to halt business, so we were left to communicate very seldomly.

### References:

- Cervone, F. (2011). *Understanding agile project management methods using Scrum* (pp. 18-22). Purdue University.
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- Perry, M. (2020). *Framer Motion API | Animation*. Framer.com. Retrieved 17 August 2020, from <https://www.framer.com/api/motion/animation/>.