

## Internal Assessment Resource

**Achievement standard:** 91883

**Standard title:** Develop a computer program

**Credits:** 4

**Resource title:** Chatbot Charlie

**Resource reference:** Digital Technologies & Hangarau Matihiko  
1.7B Version 1

### Student/Ākonga instructions

#### Introduction/Kupu Arataki

This assessment activity requires you to develop a computer program that simulates a basic chatbot program. It must be able to hold a simple conversation by recognising words in the input sentences and constructing a suitable reply.

You are going to be assessed on:

- how well-structured, logical and flexible your final computer program is as a response to the task.
- how well you have addressed relevant implications in your final computer program

#### ***Due Date: End of Term 1***

This is an individual task. You may share ideas, questions and concepts but must attempt to implement the code on your own. Any code that is used from another source must be acknowledged and cannot be assessed as your own work.

#### Task/Hei Mahi

You are to design a “chatbot” computer program in a text written programming language of your choice. This chatbot could be as simple as a “Magic 8 Ball” type program that looks for a couple of keywords and supplies a fixed response to the input.

In developing your computer program, you should demonstrate the use of basic iterative stages to plan, develop, test, and evaluate your computer program.

You will develop your program through the application of appropriate programming tools and techniques. Your program must demonstrate use of:

- variables storing at least two types of data (e.g. numeric, text, Boolean)
- sequence, selection and iteration control structures

- input from a user, sensors or another external source

**and one or more of:**

- data stored in collections (e.g. lists, arrays, dictionaries)
- user-defined methods, functions or procedures.

Throughout the development process you must ensure that you address any relevant implications including appropriate cultural and ethical chatbot responses.

You will be asked to keep a development log of your progress where you will record this evidence and save versions of your code as you develop it.

**Hand in:**

- Your development log including evidence of planning, developing, testing and evaluation of your program.
- The final computer program, and the versions created as you developed it.

## Resources/Ngā Rauemi

**Example of Chatbot conversation where Charlie talks about Sport:**

Me: Hi

Charlie: Hey right back!

Charlie: Do you like sport? Yes or No

Me: Yes

Charlie: So what is your preference, Rugby or Tennis?

Me: I like rugby

Charlie: Do you support the Crusaders or the Hurricanes?

Me: I don't like either.

Charlie: Have you watched the All Blacks playing recently?

**Note:** Here Charlie offers the user input choices. Charlie will only respond to these choices, but has a few different possible responses to each of the input options. A random number will be used to choose the next response. Charlie will also start a new conversation if the expected answer is not received. In this way, no two conversations are exactly the same.

Links to assist:

[https://wiki.scratch.mit.edu/wiki/Artificial\\_Intelligence](https://wiki.scratch.mit.edu/wiki/Artificial_Intelligence)

<https://www.youtube.com/watch?v=gZAdYyixRcg>

<https://medium.freecodecamp.org/creating-a-chat-bot-42861e6a2acd>

[https://www.chatbots.org/ai\\_zone/viewthread/492/](https://www.chatbots.org/ai_zone/viewthread/492/)

<https://www.codeproject.com/Articles/36106/Chatbot-Tutorial>

<https://chatbotsmagazine.com/design-framework-for-chatbots-aa27060c4ea3>

<https://apps.worldwritable.com/tutorials/chatbot/>

<https://venturebeat.com/2016/07/27/5-tips-for-writing-chatbot-scripts/>