**Test Case VS00002**

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| **Test Case Name/ ID** | VS00002 | **Software Name/ Version** | **Chomp Sci 1.0** |
| **Revision Date** | 03/14/2023 | **Last Author** | **Robert Caplin** |
| **Requirements** | R2. As a prospective student I would like to get a high-level overview of Computer Science. | | |

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| **Pre-test Data/ Scripts** | N/A |
| **Post-test Output** | The chatbot fails on step 6 when given the directions to ask about “Computer Engineering” and “IT” using the provided phrases. This is likely a conflict with the Computer Science Topics intent, as it uses similar phrasing to the questions and provides the fallback answer of “I’m not well-trained on [entity].” |

**Test pre-requisites and setup notes:**

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| A URL pointing to the Chomp Sci test webserver.  Test results on a Chrome browser for Windows. |

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|  | **Step Description** | **Expected Result** | **Actual Result** |
|  | Navigate to the Chomp Sci test webserver. Record the URL used for testing. | You can access the Chomp Sci project page and load it in your browser. | URL used: <https://www.chompsci.com/>. Web page is accessible from Chrome desktop. |
|  | Open the Chomp Sci chat widget by clicking the button at the bottom right of the page. | You can open the Chomp Sci chat widget. | Chat widget opens properly. |
|  | Ask Chomp:  “What is Computer Science?” | Chomp should provide a description of Computer Science:  “While there is no official definition of Computer Science one way to view it is as the study of computation. This includes the study of:  - what can and cannot be solved through computation. - computational methods and their application. -the tools we use to perform computations.” | Blue chat bubble of asked question appears on right side of the window. The bot provides a description of Computer Science as described in the test step in an orange chat bubble on the left side of the window. |
|  | Ask Chomp:  “Why isn’t there an official definition?” | Chomp should provide an explanation:  “The first general purpose computers began to be built in the United States and Europe during the late 1930s. The term Computer Science was coined in the 1950s to describe related coursework being offered by universities.”  “The development of modern computers took place over a period of centuries drawing from a number of fields in Mathematics, Science, and Engineering, and as a result the topics addressed by these courses were just as broad. While the academic field of Computer Science is relatively young it has expanded rapidly and had far reaching societal impacts.  It is likely that for all of these reasons, there are a variety of perspectives on what constitutes Computer Science, and how it should be defined.” | Blue chat bubble of asked question appears on right side of the window. The bot responds similarly as described in the previous step. |
|  | Ask Chomp about Computer Science history:  “Tell me about the history of Computer Science.” | Chomp should provide information on the development of Computer Science and a quick link button to a related topic:  “The foundation of Computer science predates modern computers. Ancient peoples used machines like the abacus and algorithms like the Sieve of Eratosthenes to perform calculations.”  -> What happened next? | The chatbot properly provides information on the relevant topic as well as a button outlined in orange with the text “What happened next?” |
|  | Click “What happened next?” | Chomp provides additional information and another quick link button:  “During the Enlightenment mechanical calculators began to appear in Europe. The famous mathematician Leibniz created one such calculator in 1873. He is sometimes credited as the founder of computer science for documenting the use of logical operations in a binary number system.  https://en.wikipedia.org/wiki/Gottfried\_Wilhelm\_Leibniz”  -> What happened next? | Clicking the button causes a blue chat bubble with ‘/faq/Leibniz’ to appear followed by the chatbot’s response in orange. Another ‘what happened next?’ button appears, but it is not capitalized at the beginning. |
|  | Click “What happened next?” | Chomp provides additional information and another quick link button:  “During the Industrial Revolution Charles Babbage designed increasingly complicated calculators culminating in his Analytical Engine, the first general-purpose computer, in 1837. Due to financial and manufacturing difficulties the Analytical Engine was never built.  https://en.wikipedia.org/wiki/Charles\_Babbage”  -> What happened next? | Clicking the button causes a similar series of events as the previous step: blue chat bubble, orange chat bubble response (matching the expected result) by the bot, and a button with the text ‘What happened next?’ (This button appears to have proper capitalization) |
|  | Click “What happened next?” | Chomp provides additional information and another quick link button:  “In 1843, Ada Lovelace wrote what is considered the first published algorithm for a computer as a supplement to an article on Babbage's Analytical Engine.  https://en.wikipedia.org/wiki/Ada\_Lovelace”  -> What happened next? | Clicking the button causes a similar series of events as the previous step: blue chat bubble, orange chat bubble response (matching the expected result) by the bot, and a button with the text ‘What happened next?’ (This button appears to have proper capitalization) |
|  | Click “What happened next?” | Chomp provides additional information:  “The first general purpose computers began to be built in the United States and Europe during the late 1930s. The term Computer Science was coined in the 1950s to describe related coursework being offered by universities.” | Clicking the button causes a blue chat bubble to appear with ‘/modern\_computers’ and an orange chat bubble response from the bot that matches the expected result. |
|  | Ask Chomp about related majors:  “How does Computer Science compare to other majors?” | Chomp should ask for clarification:  “Which major/adjacent field would you like to know about in comparison to Computer Science? You can say Electrical Engineering, Computer Engineering, Information Systems, Software Engineering, and Information Technology.” | Asking Chomp about related majors shows the proper expected result of the bot listing potential majors. |
|  | Ask Chomp:  “Tell me about Electrical Engineering.” | Chomp should provide a comparison:  “While there are many differences between Computer Science and Electrical Engineering, one of the most distinct ones is that electrical engineers focus on physical products and work with electricity, electrical currents. and electrical components to create solutions while computer scientists focus on nontangible concepts and use logic, computation, and coding to create solutions. In terms of schoolwork, an electrical engineering degree may require more diverse courses be taken. Degrees in electrical engineering may include courses that focus on technical concepts involving digital systems and electric circuits. These courses are usually application-based in manufacturing, navigation systems, communication, health care, etc. Electrical engineers may also be required to take courses that computer scientists take.“  “Would you like to know about another major/adjacent field? You can say Electrical Engineering, Computer Engineering, Information Systems, Software Engineering, and Information Technology.” | The answer is provided by the bot, however, the provided response is longer than the window allows, and the user must scroll up to view the beginning of the message. The response matches the expected result, and the bot asks the user if they would like to know about another field. |
|  | Ask Chomp:  “What about Computer Engineering?” | Chomp should provide a comparison:  “Though Computer Science and Computer Engineering sound similar, the two actually specialize in two separate aspects of computer technology. With computer engineering, more priority is given to computer design and development. Computer science, on the other hand, focuses more on computing theory and data analysis. Courses in computer engineering involve learning to develop prototypes and test components such as microchips, circuits, conductors, and processors. For those with interests in or career goals involving building computers, designing interfaces, or delving into hardware, computer engineering may be a more appealing area of study.”  “Would you like to know about another major/adjacent field? You can say Electrical Engineering, Computer Engineering, Information Systems, Software Engineering, and Information Technology.” | The bot does not provide the expected result for this case. The response of the bot is as follows: “I’m not well-trained on computer engineering.”   The cause of this confusion is likely with the Computer Science Topics conversation, which uses Intent examples like ‘Tell me about [computing theory]’. The bot is likely confusing the intents.  FAILED |
|  | Ask Chomp:  “What are Information Systems?” | Can’t get a response for Information Systems. | The bot provides an answer for the question. Here is the response of the bot:  “Computer Information Systems, or just Information Systems, focuses on applying technology and systems to help businesses run. It can be viewed as a more commercial approach to computer science. Courses for a degree in information systems may combine business courses, such as Managerial Communication, with coding courses. A degree in information systems is commonly less intensive than a computer science degree and does not delve into programming as deeply as computer science does.  Would you like to know about another major/adjacent field? You can say Electrical Engineering, Computer Engineering, Information Systems, Software Engineering, and Information Technology.” |
|  | Ask Chomp:  “Software Engineering.” | Chomp should provide a comparison:  “Software engineering is a subset of computer science that focuses on developing software from beginning to end. Software engineering is a more hands-on subsection that includes working with different programming languages to write, revise, and test new software programs. The courses for computer science and software engineering often overlap and can include Introduction to Programming, Data Structures, Discrete Structures, and Operating Systems.”  “Would you like to know about another major/adjacent field? You can say Electrical Engineering, Computer Engineering, Information Systems, Software Engineering, and Information Technology.” | Chomp properly provides the response listed in the expected result. |
|  | Ask Chomp:  “Tell me about IT.” | Chomp should provide a comparison:  “Information Technology is often referred to as 'the business side of computer science' and focuses more on meeting the technological needs of organizations. Unike computer science, information technology emphasizes using computers, databases, networks, servers, and software to process, store, transmit, retrieve, and protect data. While computer scientists use theoretical skills to develop and improve computer programs, information technology specialists install, implement, and maintain the programs in addition to applying them to businesses and other professional organizations. The courseload for an information technology degree includes classes in which students learn to identify, create, and configure complex computing platforms and systems to solve problems. Those who enjoy discovering technological solutions to problems and working with others should consider a degree in information technology.”  “Would you like to know about another major/adjacent field? You can say Electrical Engineering, Computer Engineering, Information Systems, Software Engineering, and Information Technology.” | Chomp fails to give the expected response for IT. Chomp gives the following response: “I’m not well-trained on it.”  This is once again likely an issue with the Computer Science Topics intent, as it uses examples like ‘Tell me about [algorithms]’. The bot is likely confusing the intents.  FAILED |
|  | Ask Chomp:  “What kind of jobs can I get with a CS degree?” | Chomp should provide an overview of career options:  “Employeers in a variety of industries hire Computer Science graduates for jobs the U.S. Bureau of Labor Statistics classifies as Computer Occupations.  As of May 2021, BLS data shows that 70% of those employed within Computer Occupations work as Software Developers, Support Specialists, Systems Analysts, Network/ Systems Administrators, and QA Analysts.  Other common positions include Network Architects, Security Analysts, Database Administrators, Web Developers and Designers, and Research Scientists.  https://www.bls.gov/oes/current/oes\_nat.htm”  -> Are there other career options? | The bot provides the expected message for the given question. The bot also provides the expected button with the response. |
|  | Click “Are there other career options?” | Chomp should provide a brief response:  “Computer Science degrees cover a variety of topics potentially preparing students to pursue careers in related fields such as Hardware Design, Data Science, Digital Media, or Business.  Earing a college degree demonstrates your ability to achieve and learn, traits helpful in many positions. Your major is only one indicator of fit. Personal experience, interests, and skills are also important and it is not uncommon for graduates to work outside their fields of study.” | The bot properly responds when the button is clicked, after the blue chat bubble containing “/other\_cscareers” is displayed.  The answer matches the expected result. |

**Validation:**

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| *You can complete the test case successfully. Chomp Sci should respond as indicated.* |

**Test Log**

| **Date** | **Configuration** | **Tester** | **Result or Issue** | **Result** |
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| 03/20/2023 | Chrome Version 111.0.5563.65 (Official Build) (64-bit) browser on Desktop Windows 10. | Christopher Schmidt | Fail. The chatbot fails on step 6 when given the directions to ask about “Computer Engineering” and “IT” using the provided phrases. This is likely a conflict with the Computer Science Topics intent, as it uses similar phrasing to the questions and provides the fallback answer of “I’m not well-trained on [entity].” | *Fail* |

***Instructions:*** *Complete ‘Actual Result’ column, overwriting any previous entries while working through test case. When the test is completed insert a new row at the top of the test log and include a description of the issue if the test failed. Remember to update the revision date and author if you have made other changes to the test case.*