The chatbot will be based off of The Witcher 3. The Witcher 3 is a video game with complex lore where the primary goal is killing various monsters. These monsters will usually have a set of weaknesses which can be exploited by the player to kill that monster more easily.

System requirements:

* The chatbot should allow for some “small talk” such saying hello and asking how they are
* Chatbot should allow the user to tell them their name and remember it in future outputs
* The chatbot should allow the user to ask for a description all of the different monsters
* The chatbot should allow the user to ask for a list of things that a particular monster is weak to
* The chatbot should be able to answer some basic questions about The Witcher 3 and the Witcher series
* The chatbot should allow the user to exit the program by saying goodbye

AI techniques:

One of the AI techniques that will be employed is Rule based. I will use an AIML file to define patterns for user input. When the user input matches that pattern, there will be a defined template to decide what the output should.

Another technique that was used was TF\*IDF and Cosine similarity. This is used to calculate how similar a string is to a set of other strings. TF is term frequency. This refers to the number of time a term is present in a particular document. IDF is inverse document frequency. This is calculated by doing the number of documents divided by the number of documents that contain a word. The Log function is used to dampen the weighting of the IDF score. Tf and idf are represented as matrices and multiplied together. The result is a matrix containing values close to 0 which is used to determine the importance of each word.