ARTIFICIAL INTELLIGENCE

(SECJ3553-10)

Title:

MOBOT - Mental Health Support and Motivation Bot

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Knowledge Representation

Description 1:

If user greets, the chatbot will be activated and start the conversation by asking the user how are you.

- Knowledge Representation

  IF Greeting = TRUE, THEN Respond = TRUE

- First Order Logic

  Greeting(User) → Respond(Chatbot)

User Greeting	Chatbot Respond	User Greeting → Chatbot Respond
T	T	T
T	F	F
F	T	T
F	F	T

Description 2:

If user shares their feelings, then the chatbot will listen.

- Knowledge Representation

  IF Share_Feeling = TRUE, THEN Listen = TRUE

- First Order Logic

  Share_Feeling(User) → Listen(Chatbot)

Input		Outcome
User Share_Feeling	Chatbot Listen	User Share_Feeling → Chatbot Listen
T	T	T

T	F	F
F	T	T
F	F	T

Description 3:

If the user is done sharing their feelings, then the chatbot will ask what the user would like to do with a few options such as reframe thoughts, positive words and breathing techniques.

- Knowledge Representation

    IF Share _Feeling = FALSE, THEN Ask_Todo = TRUE

- First Order Logic

    ¬Share_Feeling(User) → Ask_Todo(Chatbot)

Input		Outcome
¬User Share_Feeling	Chatbot Ask_Todo	¬User Share_Feeling → Chatbot Ask_Todo
T	T	T
T	F	F
F	T	T
F	F	T

Description 4:

The chatbot will ask what the user would like to do with a few options such as reframe thoughts, positive words and breathing techniques and if the user clicks on the option, then the chatbot will respond with a possible type of answer.

- Knowledge Representation

    IF Ask_Todo = TRUE AND Has_Tapped = TRUE, THEN Respond = TRUE.

- First Order Logic

Ask_Todo(Chatbot) ^ Has_Tapped(User) → Respond(Chatbot)

Input			Outcome	
Chatbot Ask_Todo	User Has_Tapped	Chatbot Respond	Chatbot Ask_Todo ^ User Has_Tapped	Chatbot Ask_Todo^ User Has_Tapped → Chatbot Respond
T	T	T	T	T
T	T	F	T	T
T	F	T	F	F
T	F	F	F	T
F	T	T	F	F
F	T	F	F	T
F	F	T	F	F
F	F	F	F	T

Description 5:

If the user asks for motivational quotes/positive words, then the chatbot will provide them.

- Knowledge Representation

  IF Ask_Motivation = TRUE, THEN Provide_Positive_Words = TRUE

- First Order Logic

  Ask_Motivation(User) → Provide_Positive_Words(Chatbot)

Input		Outcome
User Ask_Motivation	Chatbot Provide_Positive_Words	User Ask_Motivation → Chatbot Provide_Positive_Words
T	T	T
T	F	F

F	T	T
F	F	T

Description 6:

The chatbot will give tips on breathing effectively based on the user's choice of breathing technique when the user says that he or she feels uneasy or uncomfortable.

- Knowledge Representation

  IF Describe_Uneasy_Feel = TRUE AND Choose_Breathing_Technique = TRUE, THEN Give_Breathing_Tips = TRUE

- First Order Logic

  Describe_Uneasy_Feel(User) ^ Choose_Breathing_Technique(User) → Give_Breathing_Tips(Chatbot)

Input			Outcome	
User Describe_Uneasy_Feel	User Choose_Breathing_Technique	Chatbot Give_Breathing_Tips	User Describe_Uneasy_Feel ^ User Choose_Breathing_Technique	User Describe_Uneasy_Feel ^ User Choose_Breathing_Technique → Chatbot Give_Breathing_Tips
T	T	T	T	T
T	T	F	T	F
T	F	T	F	T
T	F	F	F	T
F	T	T	F	T
F	T	F	F	T
F	F	T	F	T
F	F	F	F	T

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