

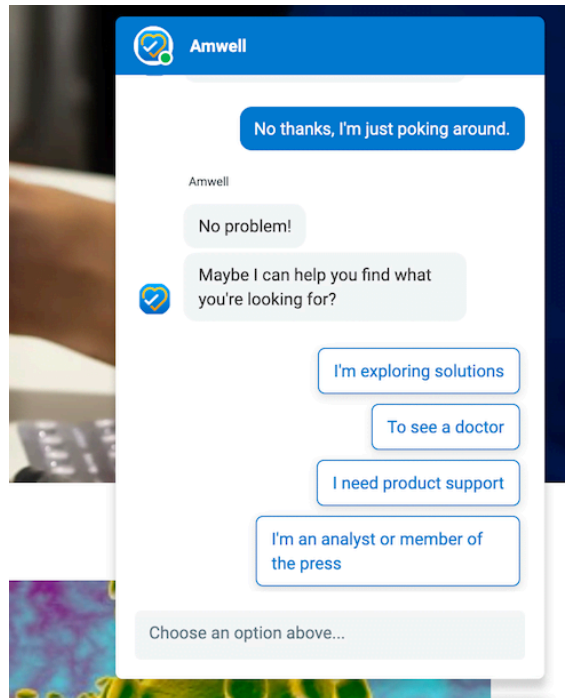
ARGUMENTATIVE CHATBOTS

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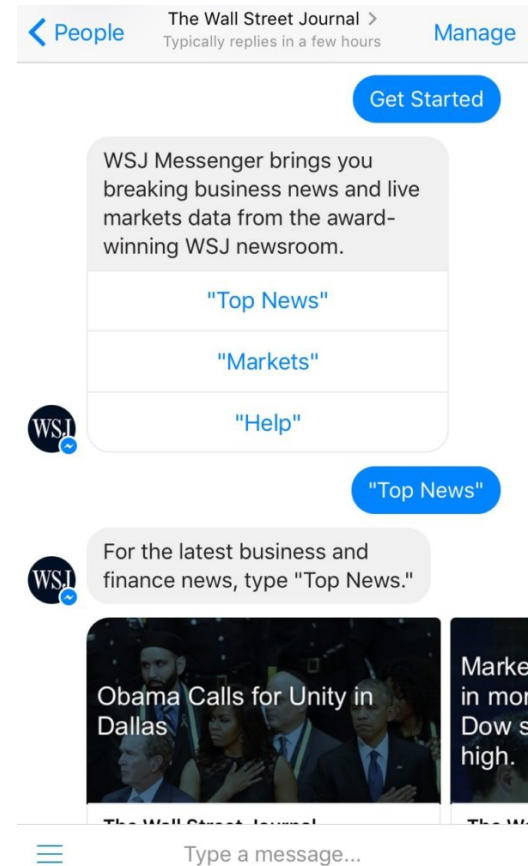
WHAT IS A CHATBOT

- Chatbots are intelligent conversational computer programs that mimic human conversation in its natural form
- They process user input (natural language text) and produce an output



APPLICATION FIELDS

- Education
- Retail and e-commerce
- Customer-care
- Transportation
- Healthcare
- Travel and hospitality
- Media and entertainment
- Legal





MOTIVATIONS

- **Productivity:** timely and efficient assistance or information
 - Both sides: company and customers
- **Engagement**
 - Entertainment
 - Social/relational



STATISTICS

- 62% of consumers would prefer to use a customer service bot rather than wait for human agents to answer their requests. ([Tidio](#))
- 74% of internet users prefer using chatbots when looking for answers to simple questions. ([PSFK](#))
- 65% of consumers feel comfortable handling an issue without a human agent. ([Adweek](#))
- 69% of consumers prefer to use chatbots because they provide instant responses. ([Salesforce](#))
- 40% of web users don't care if they are served by a bot or a human agent as long as they get the customer support services they need. ([HubSpot](#))
- 48% of users prefer to interact with a chatbot that solves issues over a chatbot with a personality. ([Business Insider](#))
- 64% of consumers claim that 24/7 service is the most helpful chatbot functionality. ([The Chatbot](#))
- 23% of consumers still prefer face-to-face interaction when the issue's complexity increases, such as with payment disputes or complaints. ([Inc](#))

PANORAMA

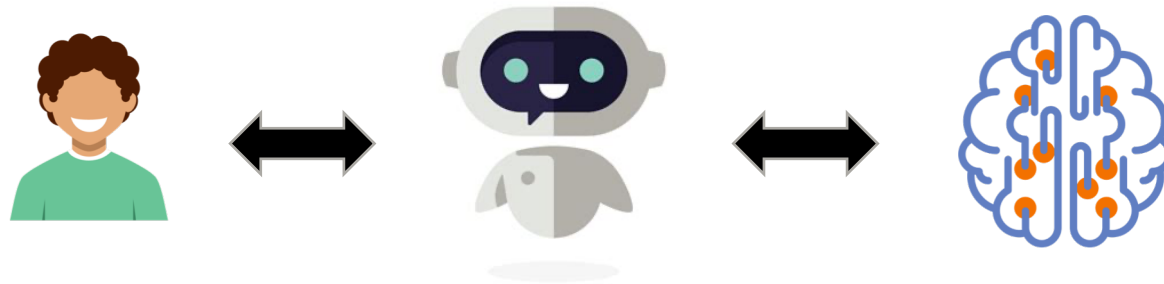




ARGUMENTATIVE CHATBOTS

MOTIVATIONS

- Chatbots do not support a real dialogue with some objective to be reached
- The interaction is dictated by quite basic procedures (if-then-else with some context)
- They are not integrated with information maps
- Text but not -arguments-





BASIC TYPES OF DIALOG

Type of Dialog	Initial Situation	Participant's Goal	Goal of Dialog
Persuasion	Conflict of Opinions	Persuade Other Party	Resolve or Clarify Issue
Inquiry	Need to Have Proof	Find and Verify Evidence	Prove (Disprove) Hypothesis
Negotiation	Conflict of Interests	Get What You Most Want	Reasonable Settlement Both Can Live With
Information-Seeking	Need Information	Acquire or Give Information	Exchange Information
Deliberation	Dilemma or Practical Choice	Co-ordinate Goals and Actions	Decide Best Available Course of Action
Eristic	Personal Conflict	Verbally Hit Out at Opponent	Reveal Deeper Basis of Conflict

PERSUASION DIALOGUE (1)

- **Paul:** My car is safe. (making a claim)
- **Olga:** Why is your car safe? (asking grounds for a claim)
- **Paul:** Since it has an airbag. (offering grounds for a claim)
- **Olga:** That is true, (conceding a claim) but this does not make your car safe. (stating a counterclaim)
- **Paul:** Why does that not make my care safe? (asking grounds for a claim)

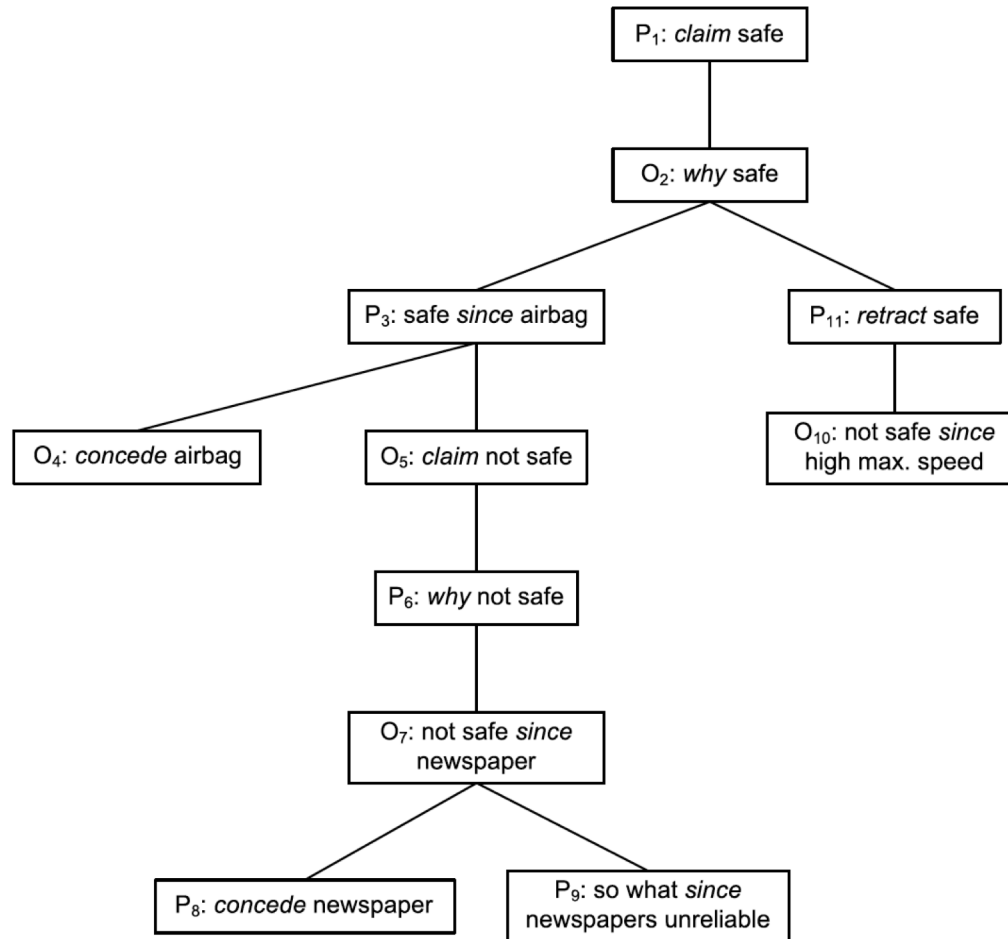


PERSUASION DIALOGUE (2)

- **Olga:** Since the newspapers recently reported on airbags expanding without cause. (stating a counterargument by providing grounds for the counterclaim)
- **Paul:** Yes, that is what the newspapers say (conceding a claim) but that does not prove anything, since newspaper reports are very unreliable sources of technological information. (undercutting a counterargument)
- **Olga:** Still your car is still not safe, since its maximum speed is very high. (alternative counterargument)
- **Paul:** OK, I was wrong that my car is safe.



DIALOGUE SYSTEMS



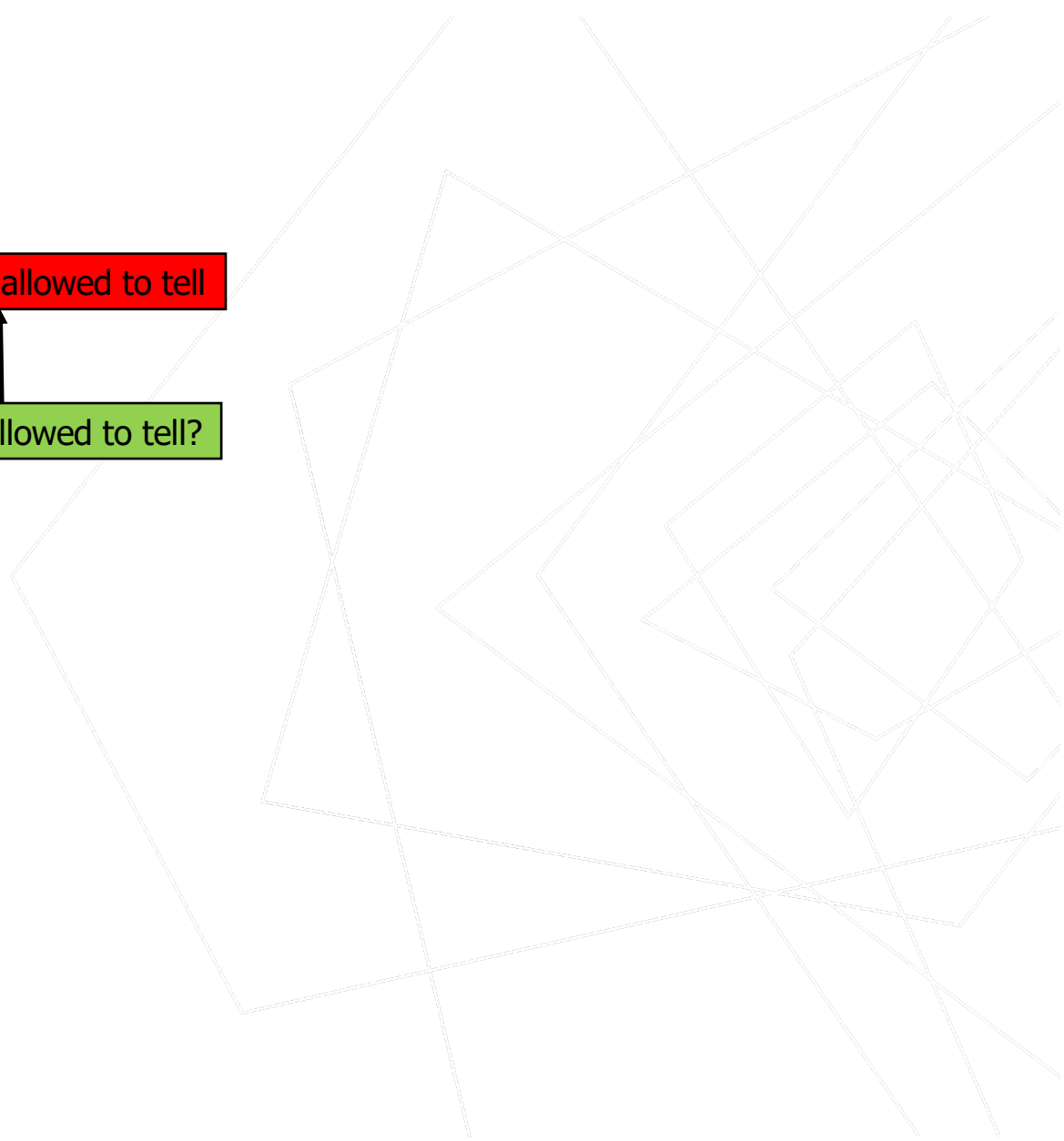
O: ***Claim*** Not allowed to tell



O: ***Claim*** Not allowed to tell



P: ***Why*** not allowed to tell?

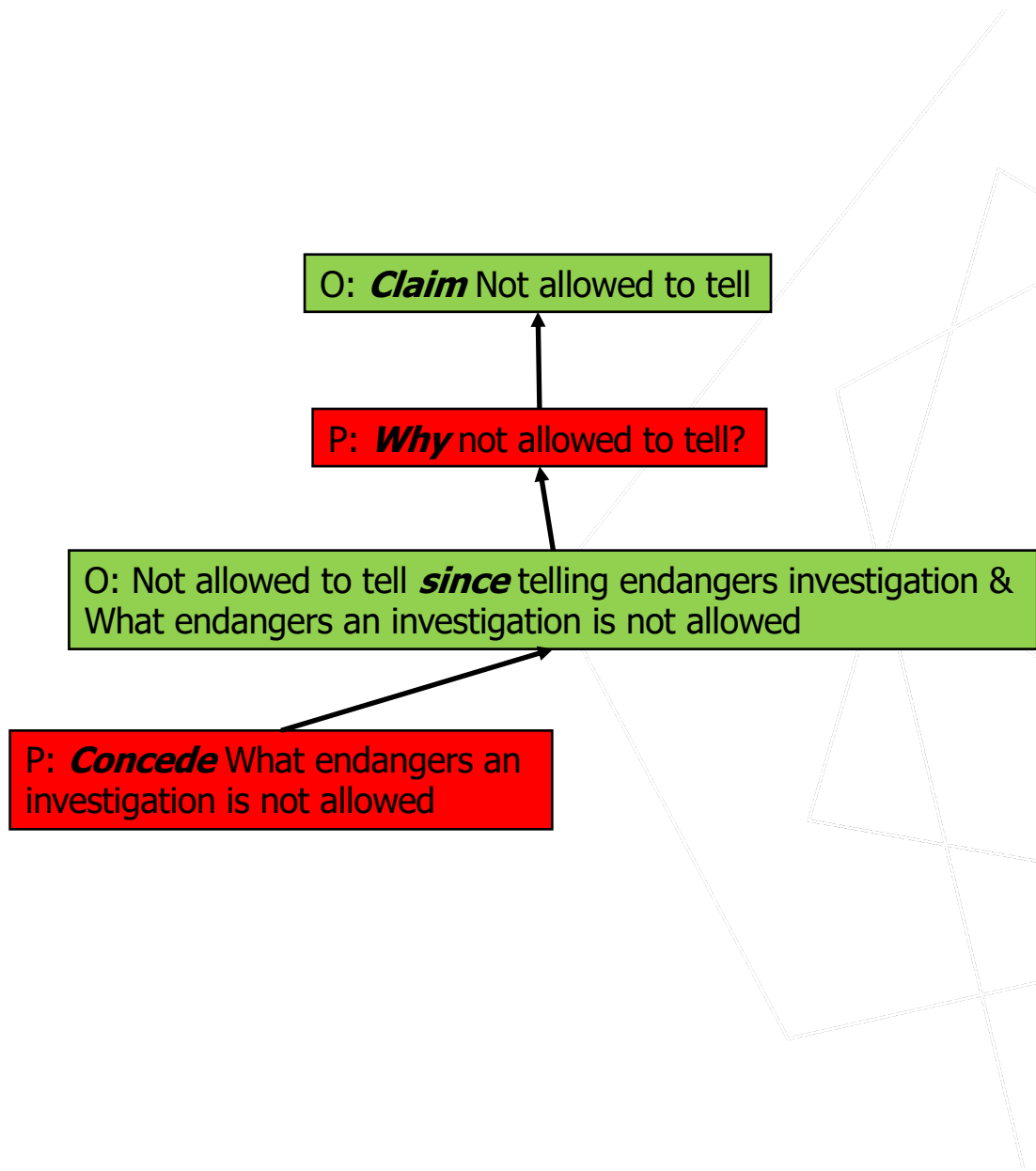


O: **Claim** Not allowed to tell

P: **Why** not allowed to tell?

O: Not allowed to tell **since** telling endangers investigation & What endangers an investigation is not allowed



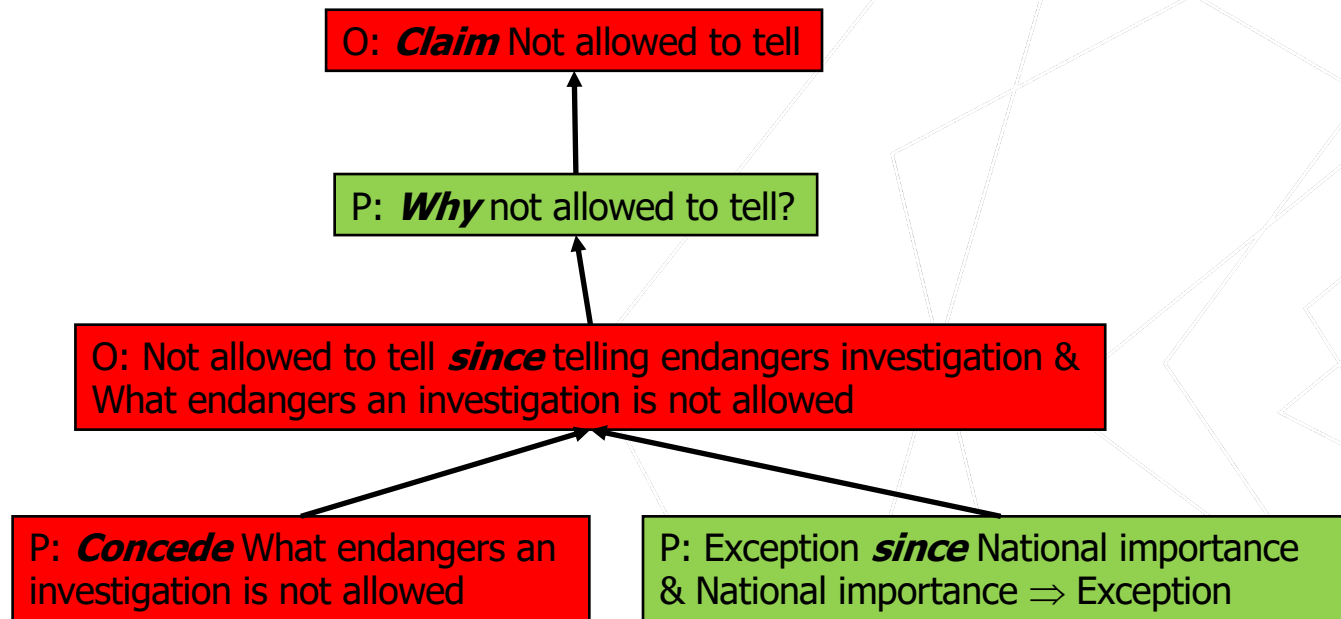


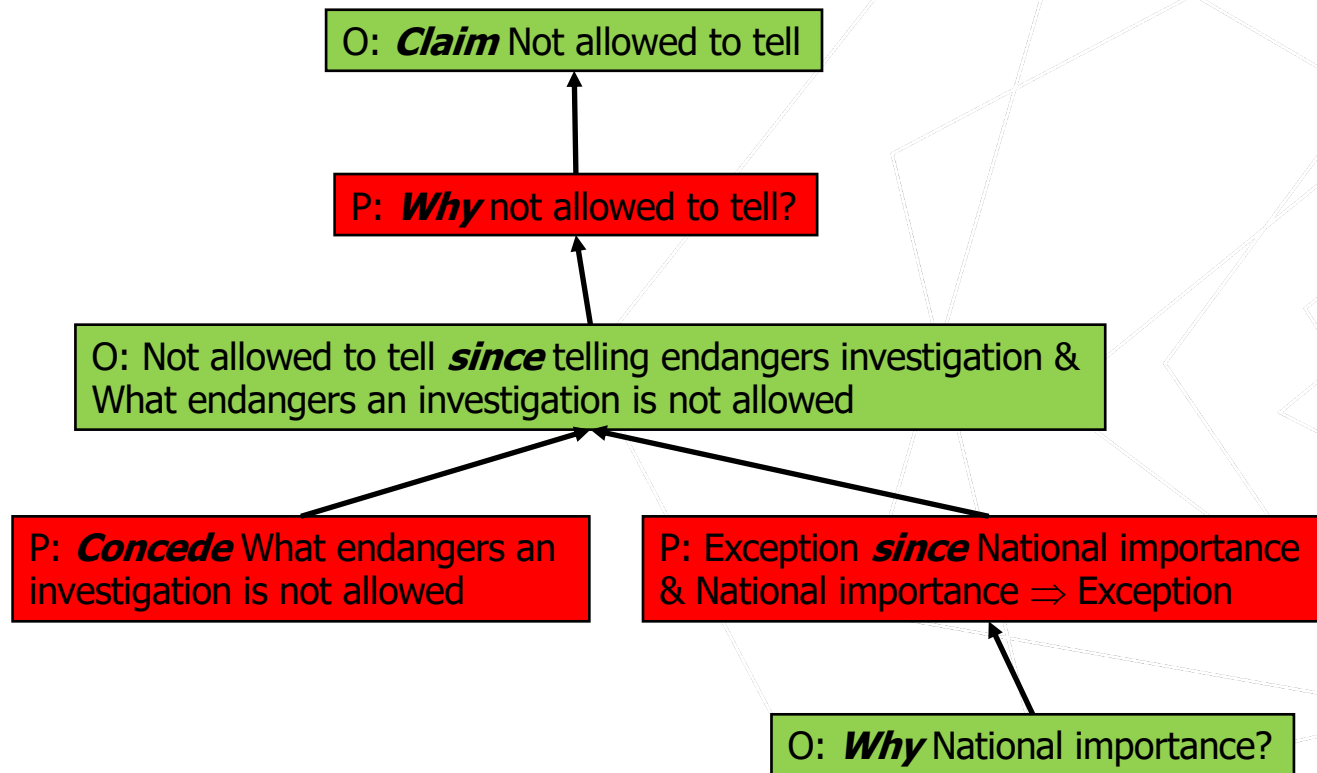
P: **Concede** What endangers an investigation is not allowed

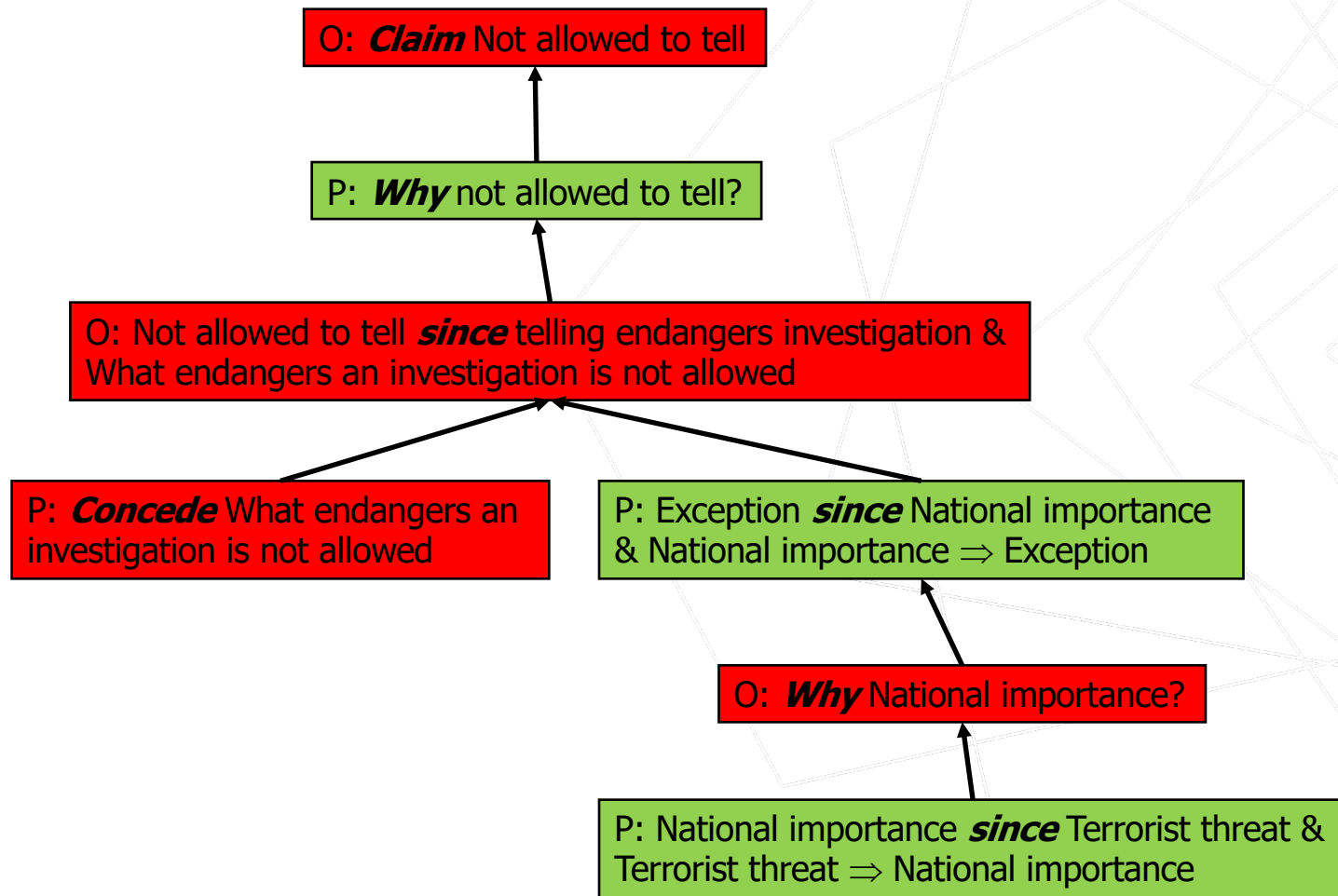
O: Not allowed to tell **since** telling endangers investigation & What endangers an investigation is not allowed

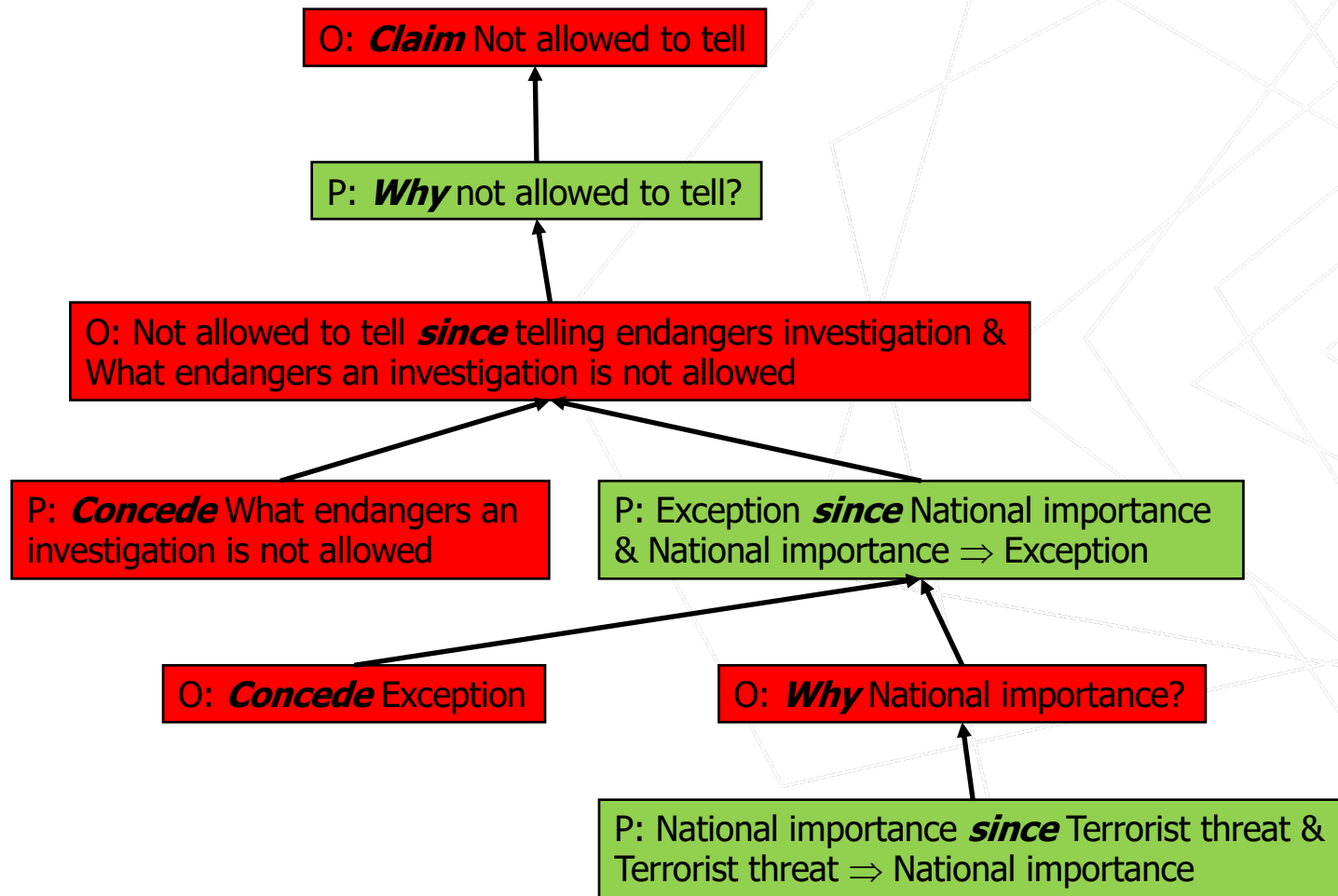
P: **Why** not allowed to tell?

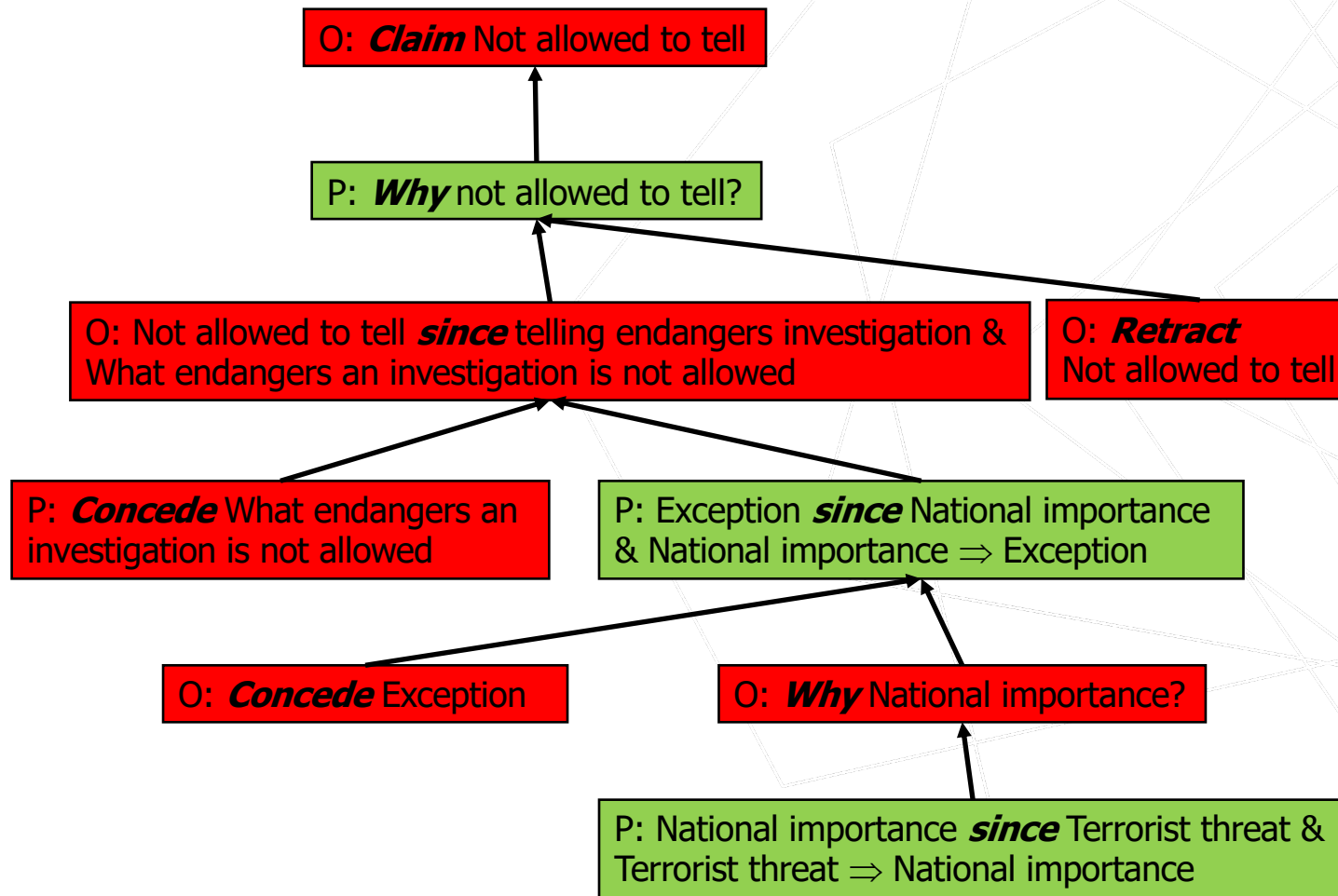
O: **Claim** Not allowed to tell



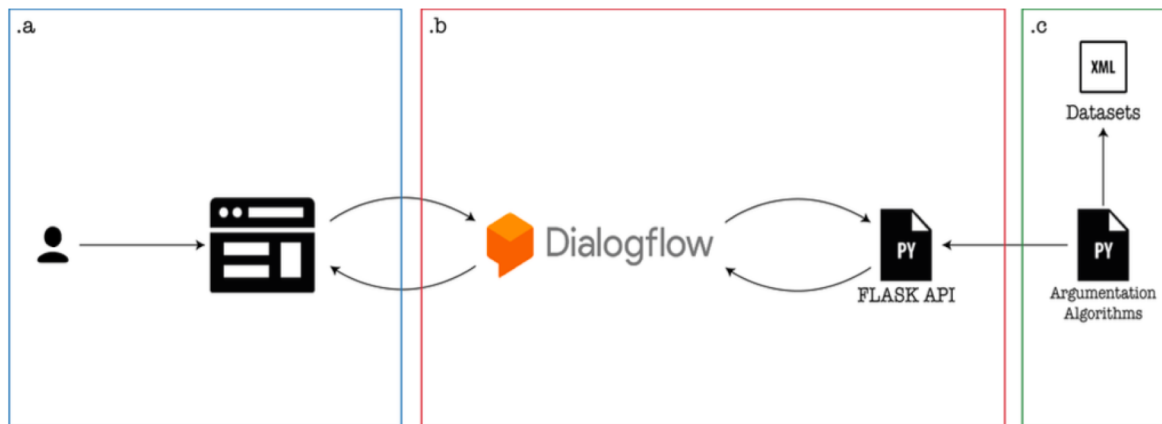








AN EXAMPLE OF ARCHITECTURE



AN EXAMPLE

The screenshot displays the ArguBot web interface. At the top, there are navigation links for HOME, CHATBOT, and SETTINGS. The main header features the ArguBot logo. Below the header, there are controls for Topic (set to Topic One), Semantics (Preferred selected, Admissible unselected), and Type (Pro selected, Con unselected). The central part of the interface shows a network diagram with 16 numbered nodes and directed edges. Node 1 is the central hub, with red edges pointing to nodes 4, 11, and 14, and green edges pointing to nodes 5, 6, 10, and 12. Node 4 has a red edge to node 16 and a green edge to node 15. Node 15 has a green edge to node 13. Node 6 has a green edge to node 7 and a red edge to node 8. Node 8 has a green edge to node 9. Node 3 is a dark grey node with no edges. A Refresh button is located below the diagram. On the right side, there is a chatbot window titled ViolentgamesPro, powered by Dialogflow. The chat history shows several messages: "video games." (green), "video games can help decrease aggression" (grey), "Violent video games represent a real danger for young people." (green), "aggression is not caused by games" (grey), and "Nor was game play an aggressive behavior predictor." (green). The input field at the bottom contains the text "Ask something..." and a microphone icon.



THANKS FOR YOUR ATTENTION!

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