ACTIVITY 1

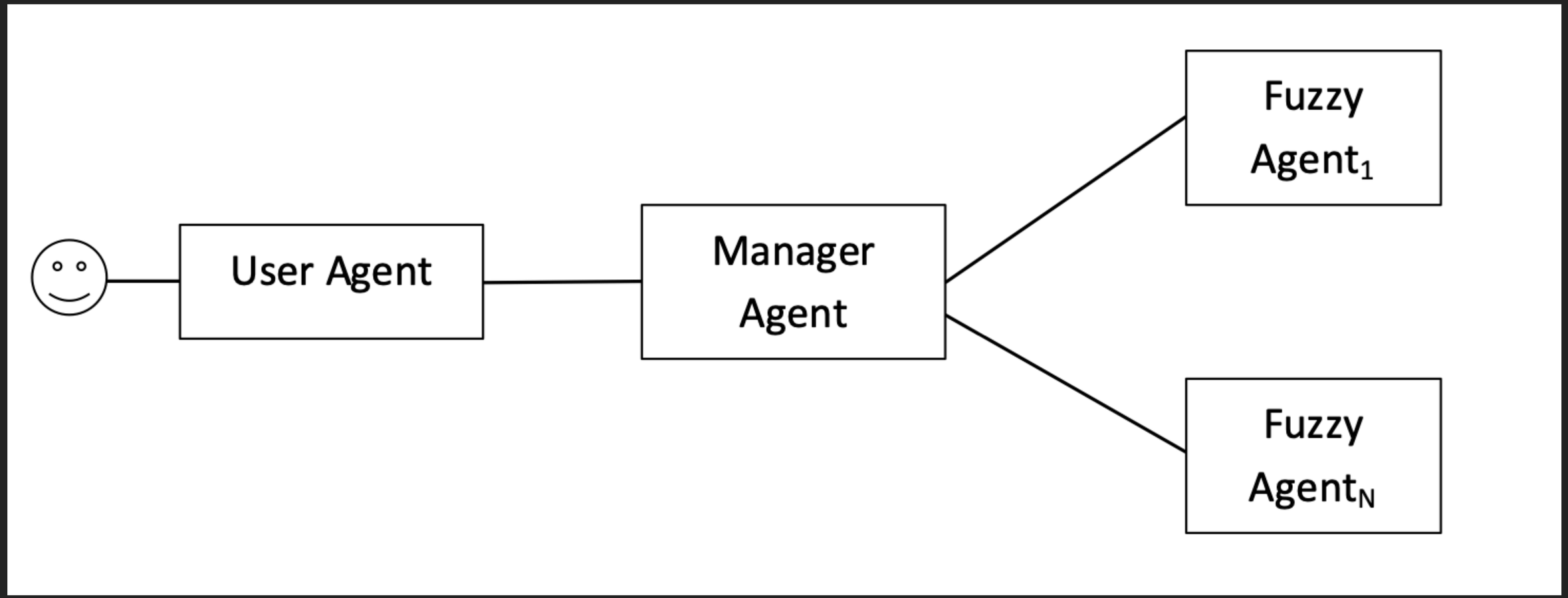
INTRODUCTION TO MULTI AGENTS SYSTEMS

CONTENTS

OVERVIEW

- The goal of this activity is to define the characteristics of a simple fuzzy agent based system

SYSTEM ARCHITECTURE

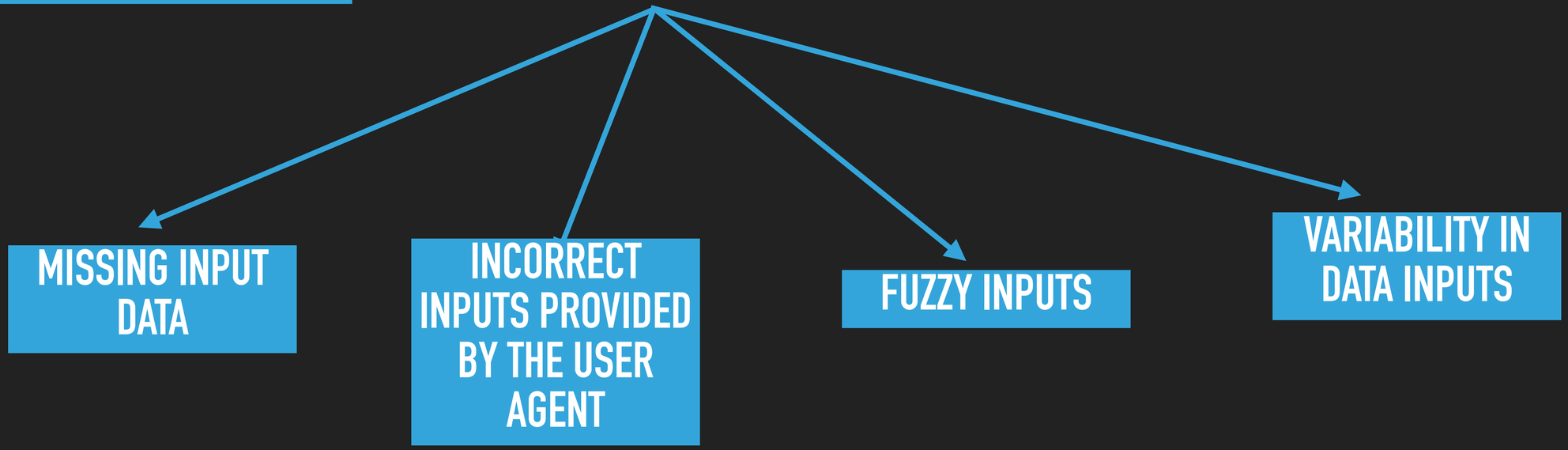


ENVIRONMENT CHARACTERISTICS

- Accessible / Inaccessible
- Deterministic / Non-deterministic
- Episodic / Non-episodic
- Static / Dynamic
- Discrete / Continuous

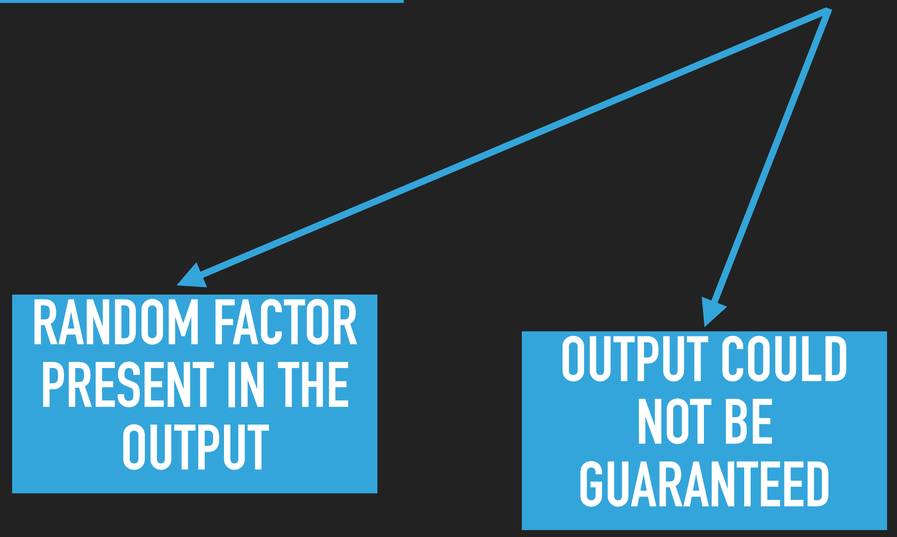
CHARACTERISTICS PRESENTED IN THE ENVIRONMENT

- Accessible / Inaccessible



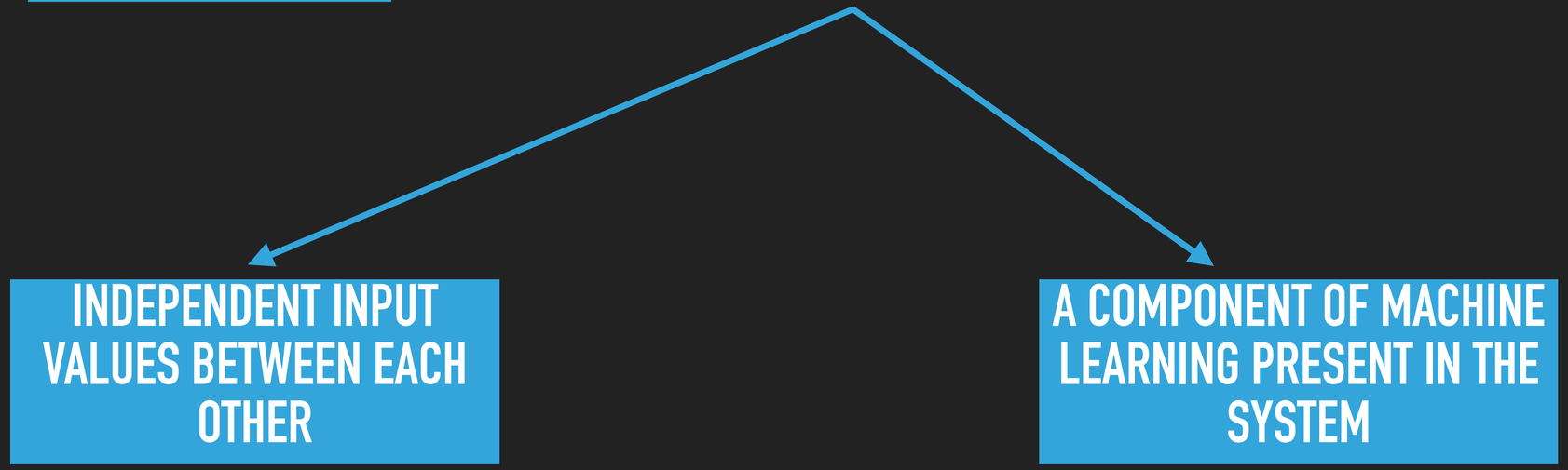
CHARACTERISTICS PRESENTED IN THE ENVIRONMENT

- Deterministic / Non-Deterministic



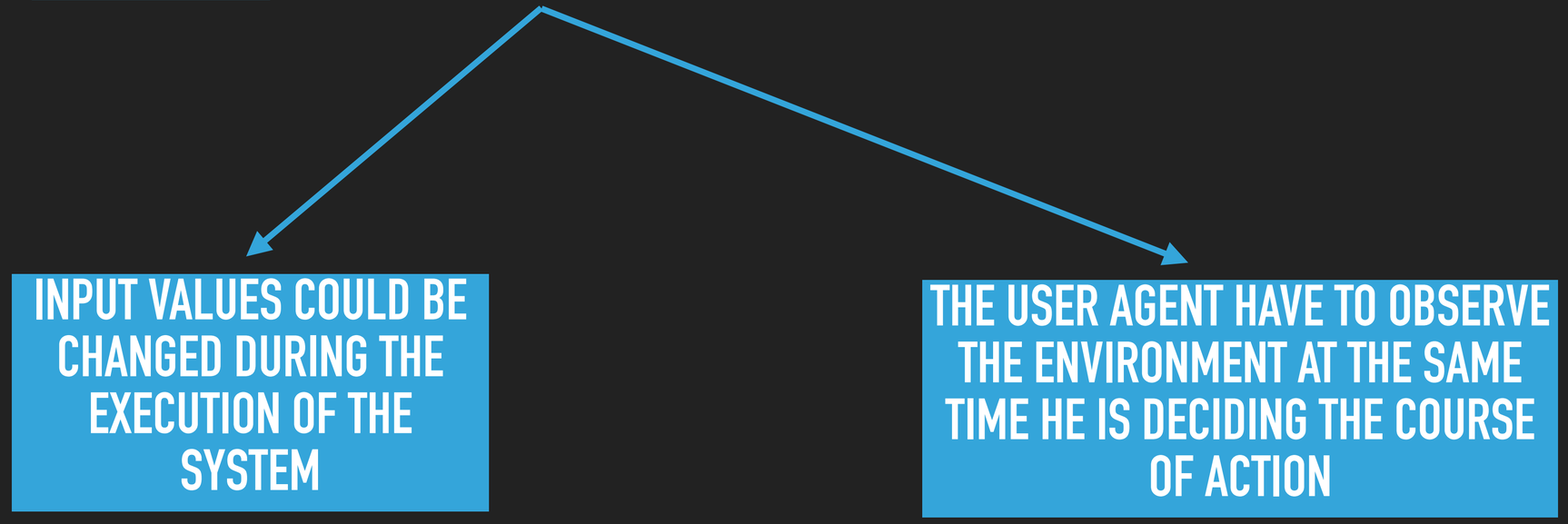
CHARACTERISTICS PRESENTED IN THE ENVIRONMENT

- Episodic / Non-Episodic



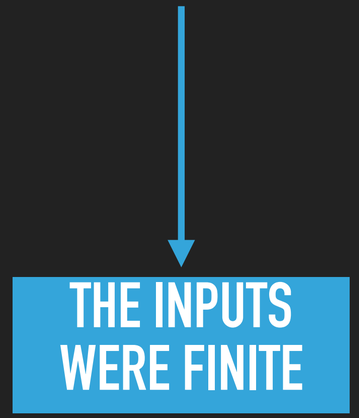
CHARACTERISTICS PRESENTED IN THE ENVIRONMENT

- Static / Dynamic



CHARACTERISTICS PRESENTED IN THE ENVIRONMENT

- Discrete / Continuous

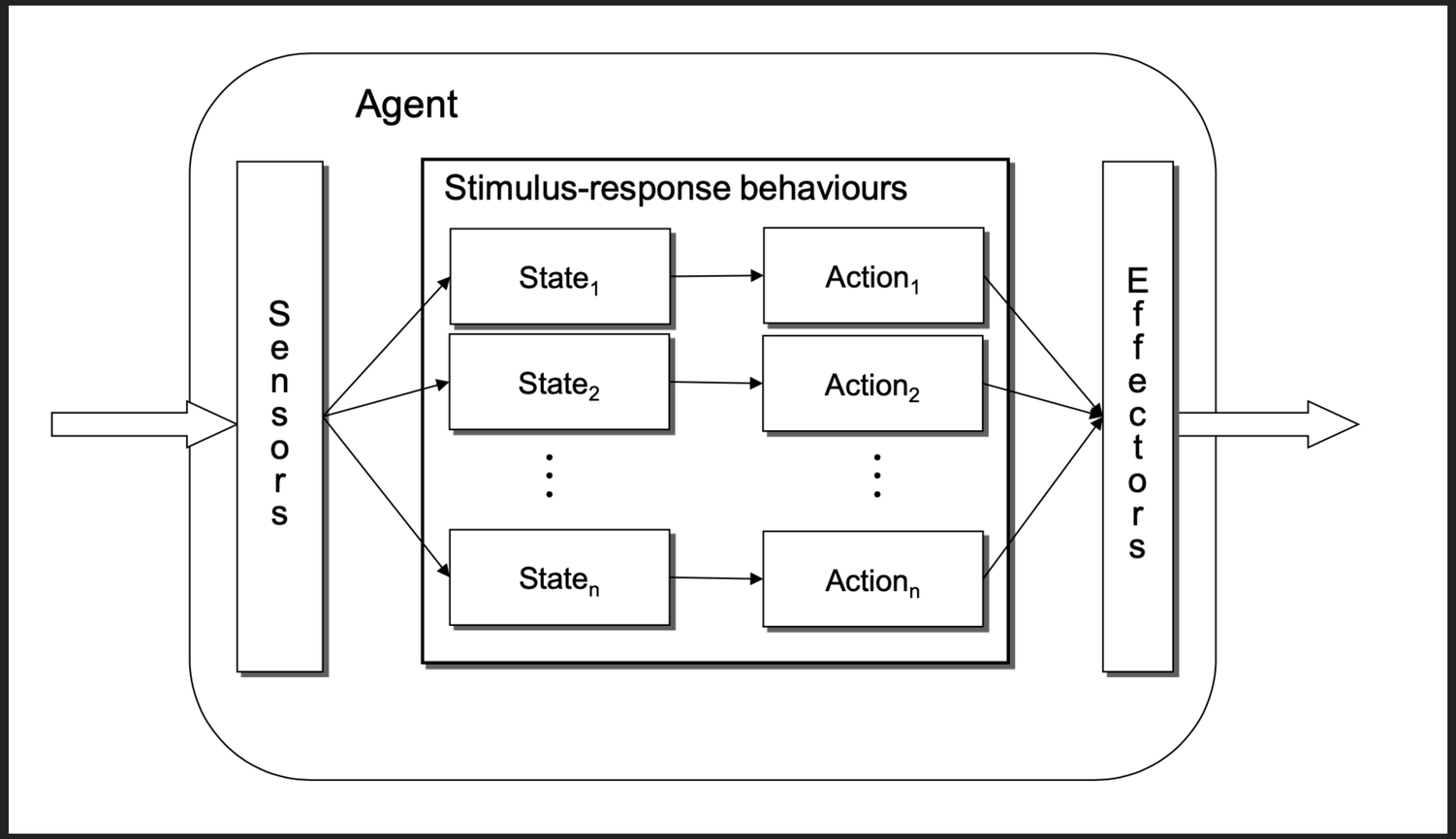


AGENTS ARCHITECTURE

- Reactive
- Deliberative
- Hybrid

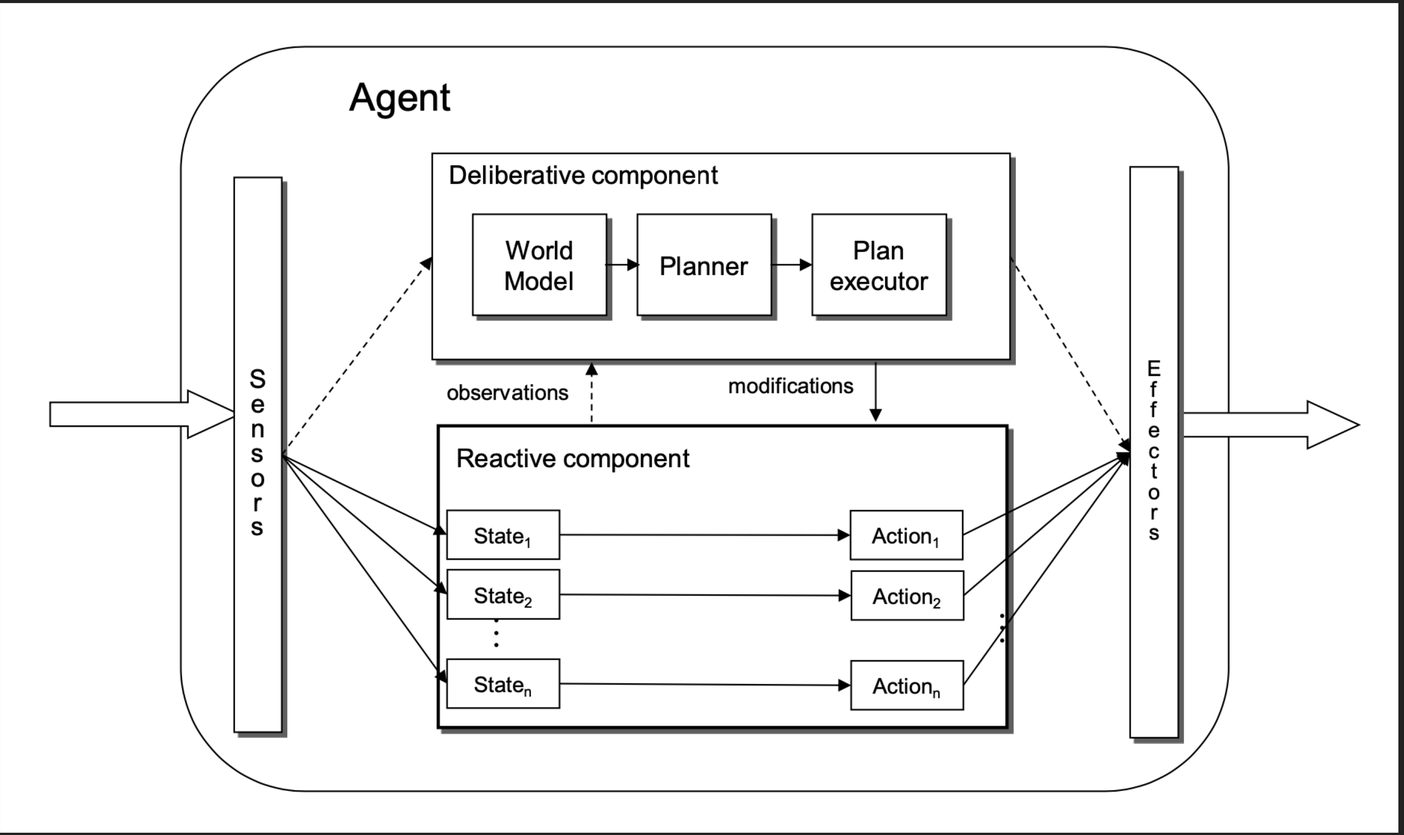
USER AGENT ARCHITECTURE

- Reactive architecture because it sends and receive queries with very simple rules



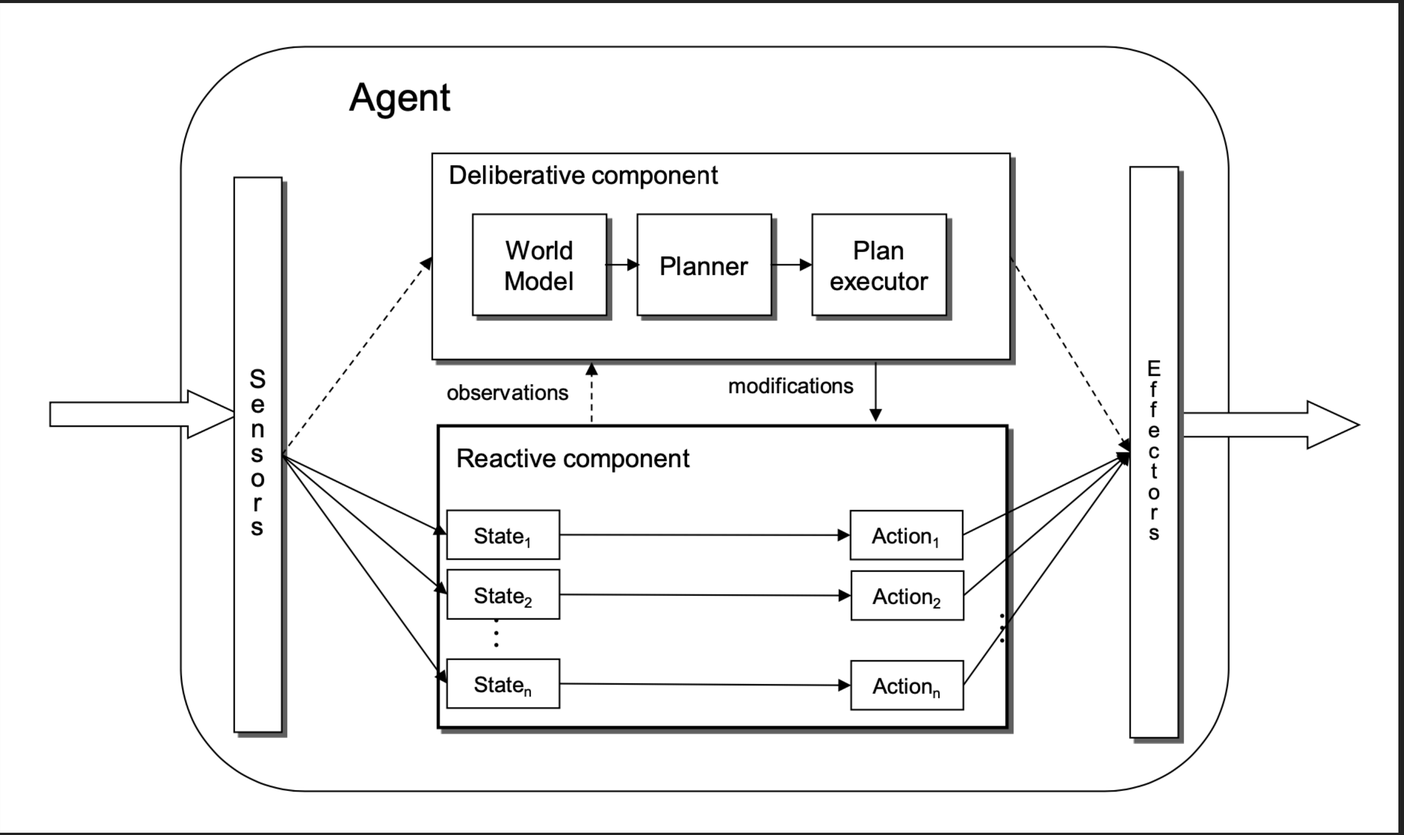
MANAGER AGENT ARCHITECTURE

- Hybrid architecture because it must perform communications between the agents, and there is no need for complex rules for that. Also, If the manager agent has to store information on past data or has to solve conflicts between fuzzy agents, has to have deliberative functionalities added



FUZZY AGENT ARCHITECTURE

- Hybrid architecture because it needs a symbolic model of the world to infer the result asked by the manager agent thus needing deliberative functionalities as well as reactive functionalities to react when information is requested from the manager agent.



AGENT PROPERTIES

- Flexibility
- Reactivity
- Proactiveness
- Social ability
- Rationality
- Reasoning Capabilities
- Learning
- Autonomy
- Temporal continuity
- Mobility

USER AGENT PROPERTIES

1. TEMPORALLY CONTINUOUS

2. REACTIVE

3. SOCIAL

4. RATIONAL

5. BENEVOLENT

6. VERACIOUS

MANAGER AGENT PROPERTIES

1. TEMPORALLY CONTINUOUS
2. SOCIAL
3. RATIONAL
4. PROACTIVE
5. REASONING CAPABILITIES
6. BENEVOLENT
7. VERACIOUS
8. REACTIVE
9. FLEXIBILITY

FUZZY AGENT PROPERTIES

1. REASONING CAPABILITIES

2. REACTIVE

3. SOCIAL

4. RATIONAL

5. BENEVOLENT

6. VERACIOUS

THANK YOU FOR YOUR ATTENTION

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