Investigation of Organizational Models for the Creation of Ethical Machines

M.Sc. Tielle Alexandre - PhD student in Computing - UFF/RJ
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Brasília/2024

Presentation Agenda

1. Toolkit for Multi-Agent Systems (MAS)
2. Toolkit and Ethics
3. Experimental Scenarios
4. Schedule Proposal

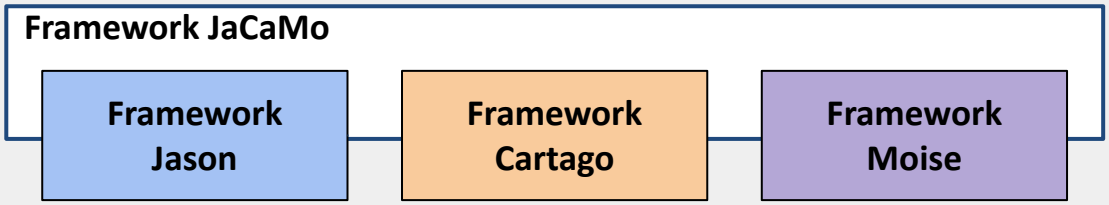
1. ToolKit for Developing Intelligent Systems Based on Beliefs-Desires-Intentions (BDI)

1 - MAS Development Framework

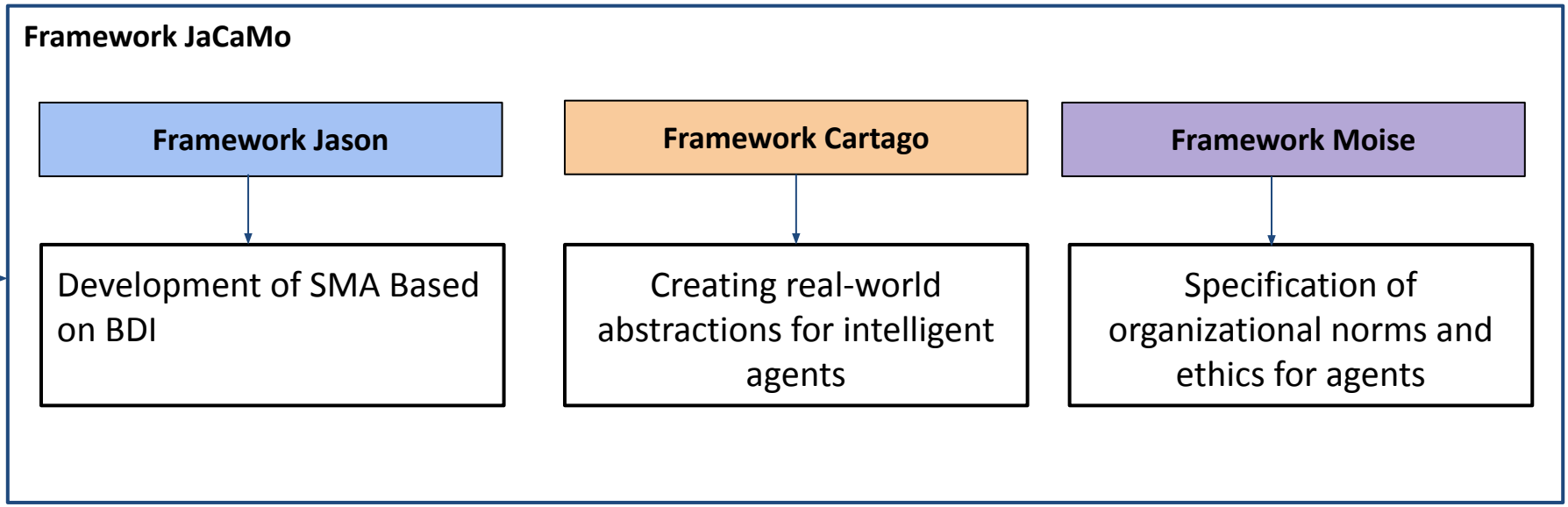
2 - Embedded MAS Development Framework

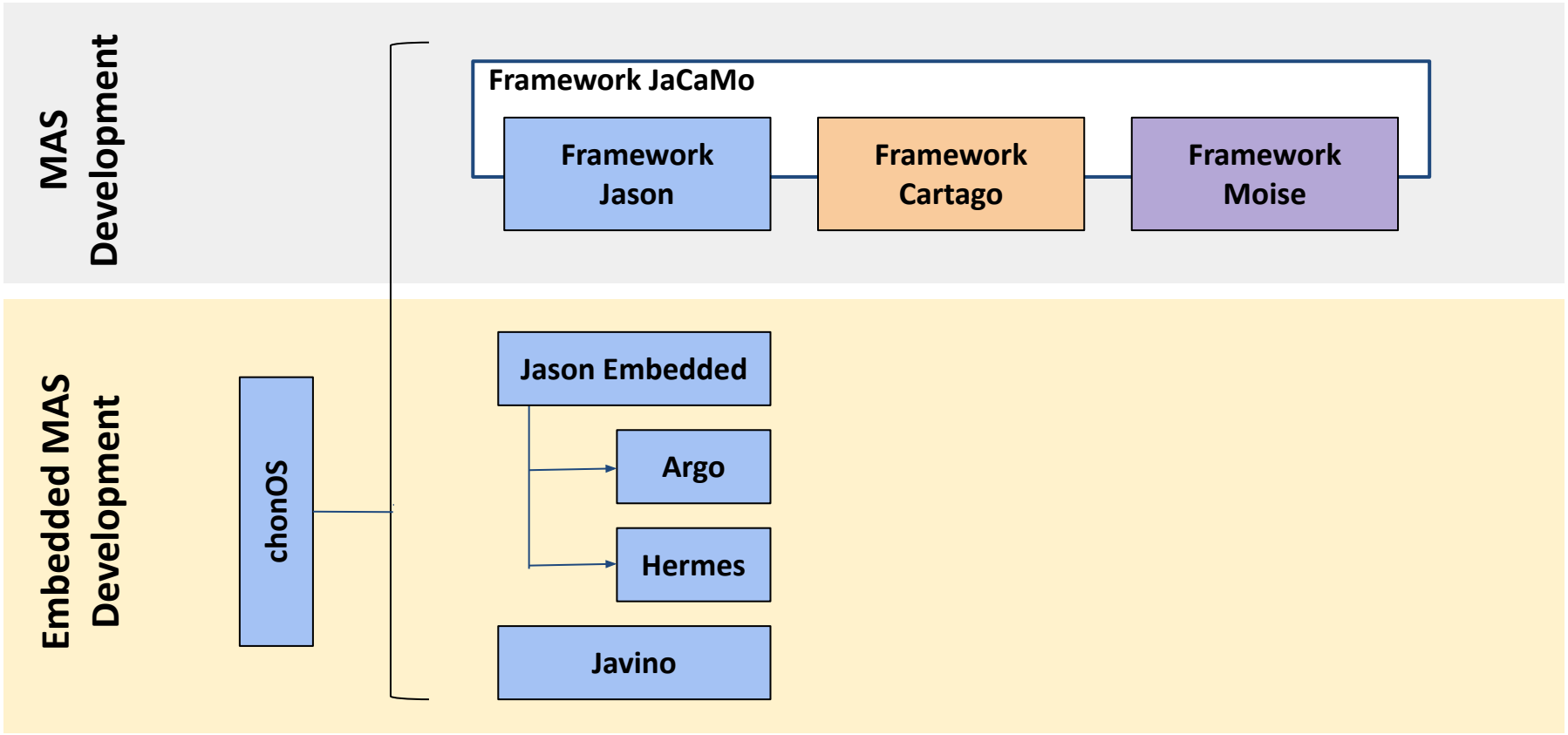
3 - Integrated Development Environment (IDE)

MAS Development

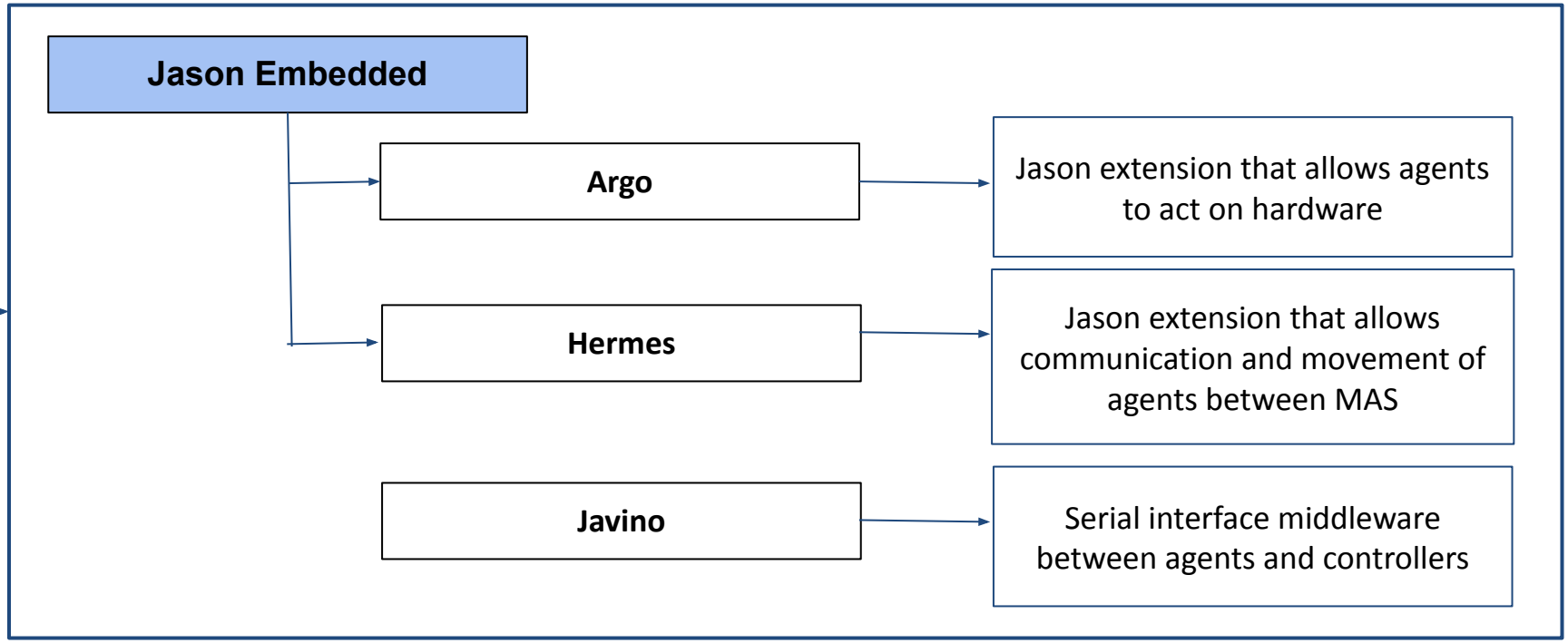


1 - MAS Development Framework




MAS Development
Framework JaCaMo
Framework Jason
Framework Cartago
Framework Moise
Embedded MAS Development
chonOS
Jason Embedded
Argo
Hermes
Javino

2 - Embedded MAS Development



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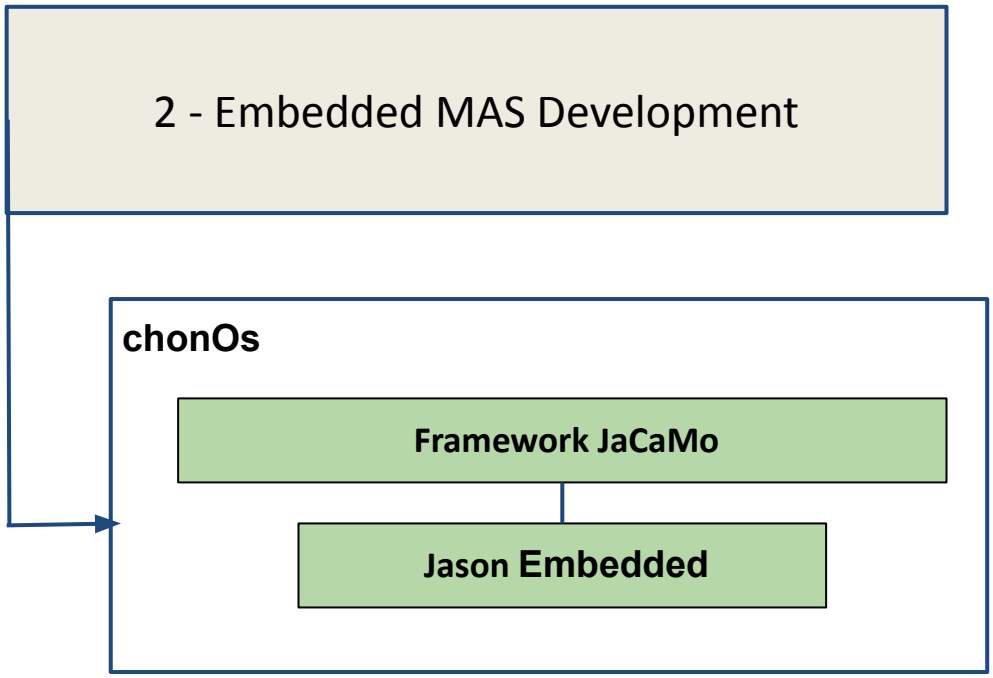
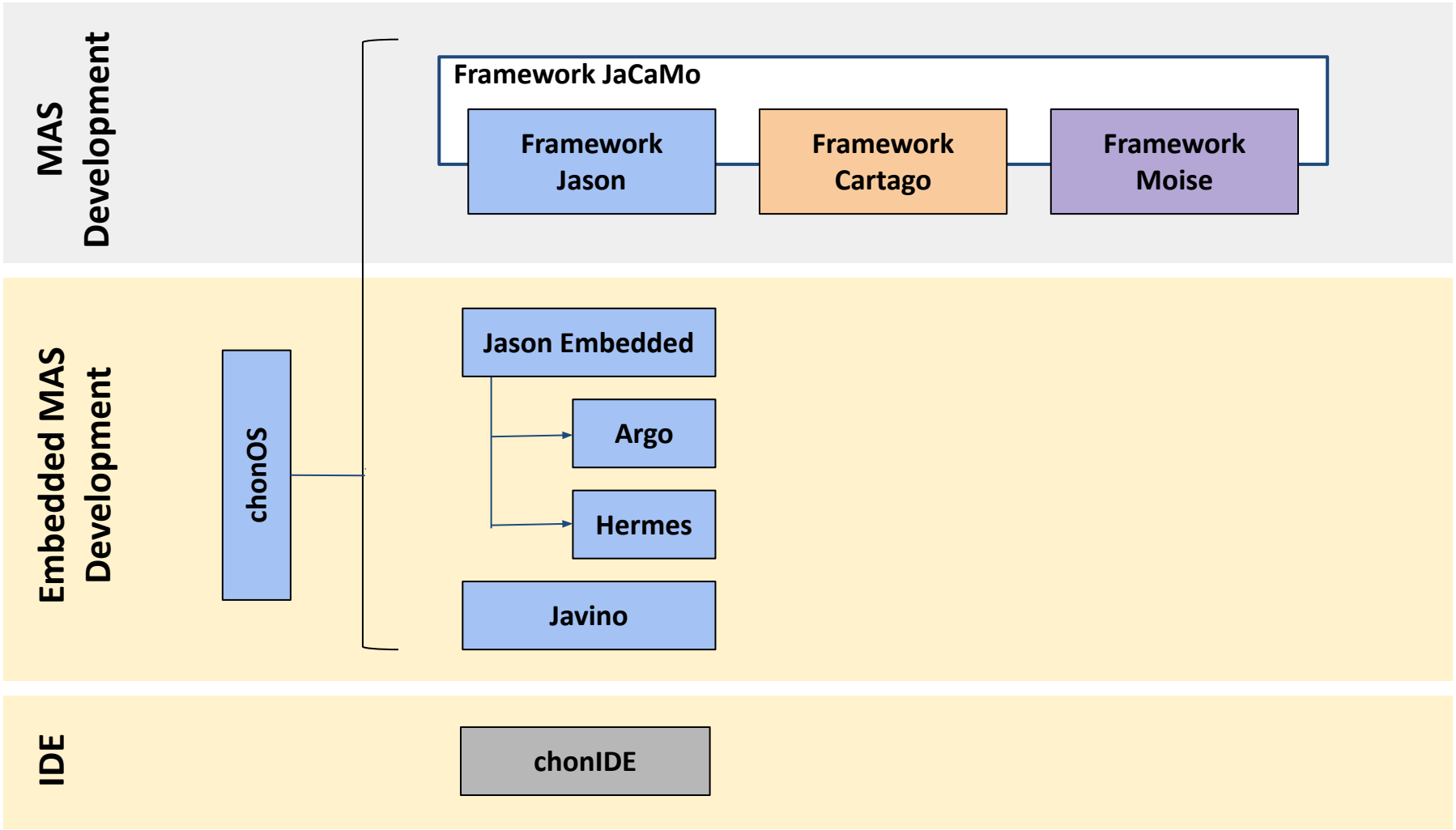


Operating System that provides an environment for running Jason Embedded, facilitating the configuration of Embedded MAS.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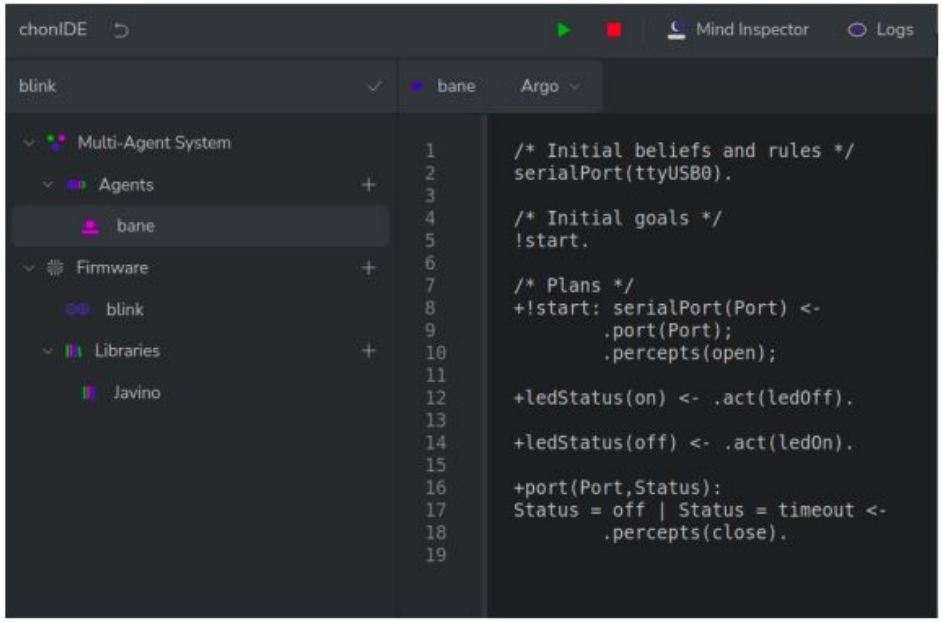
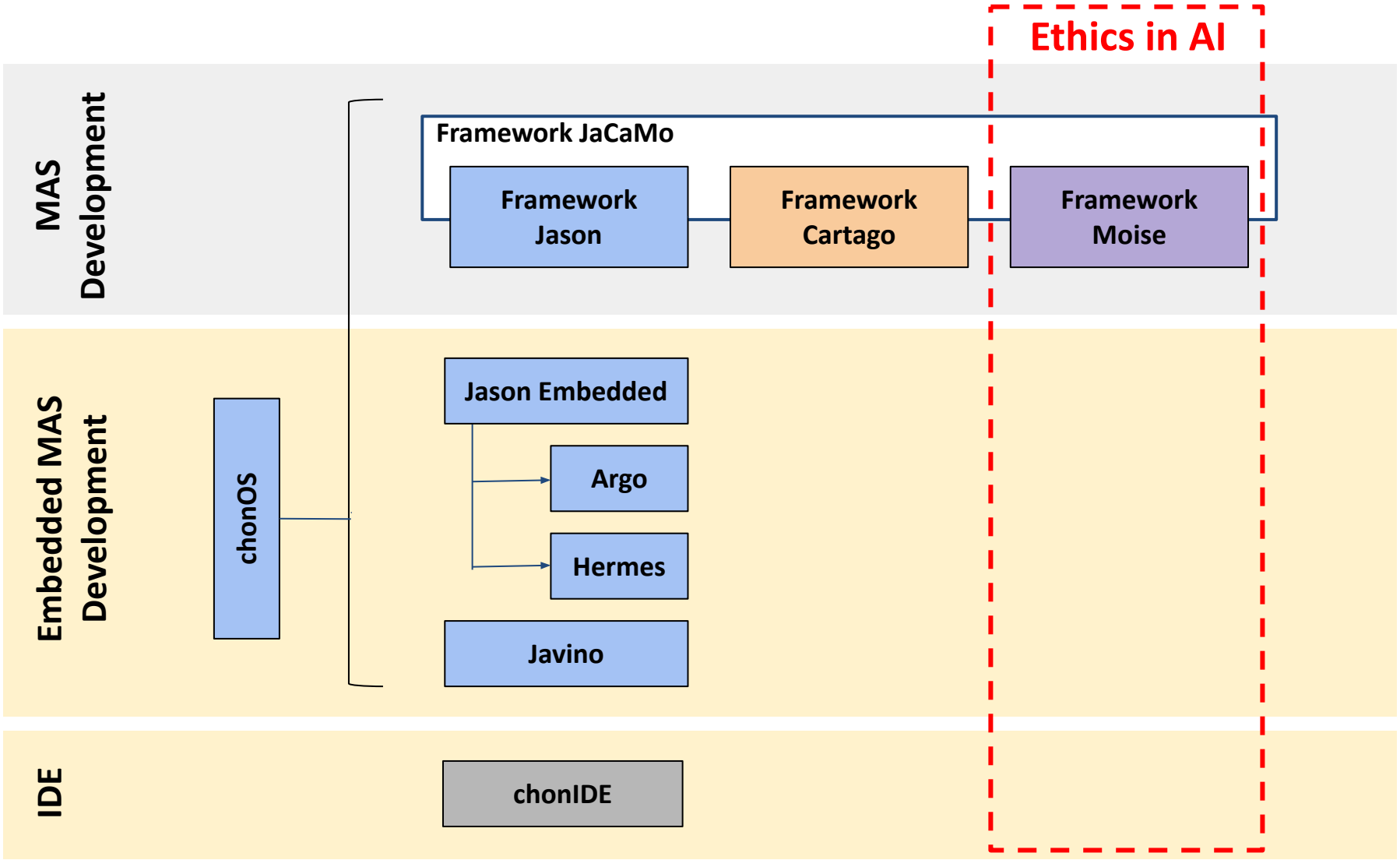
chonIDE

3 - Integrated Development Environment (IDE)

chonIDE



IDE for the development and teaching-learning of embedded or non-embedded MAS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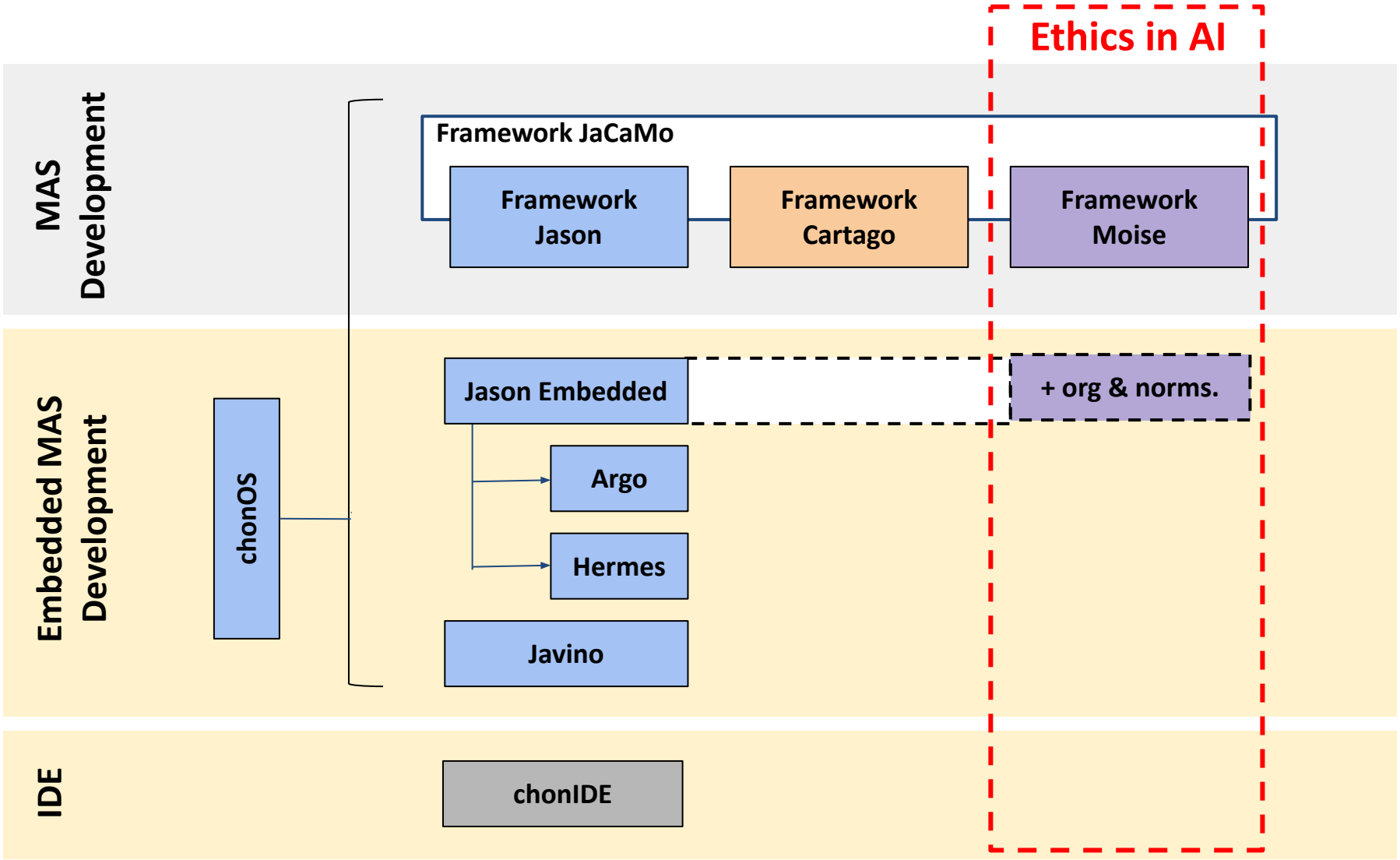
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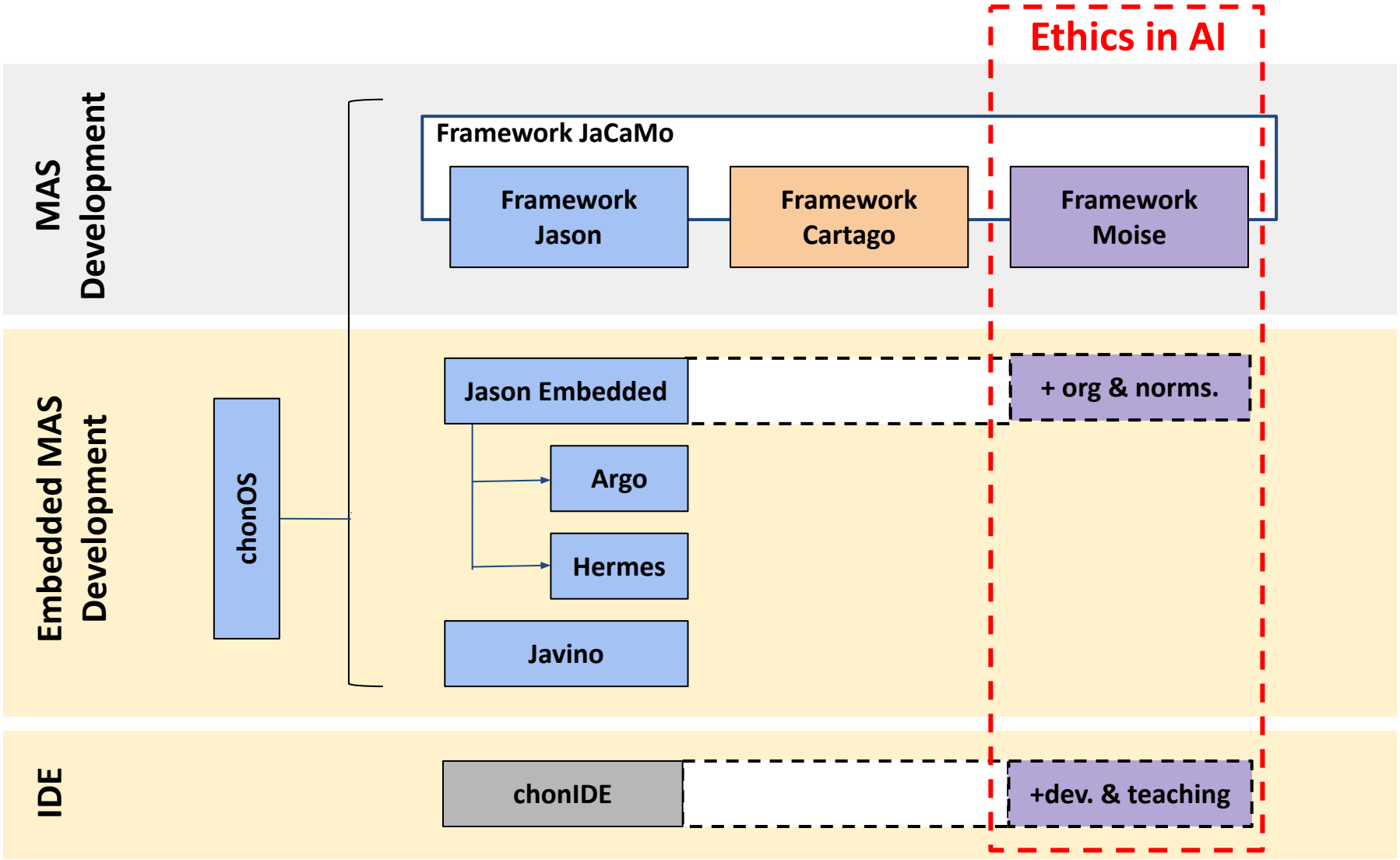
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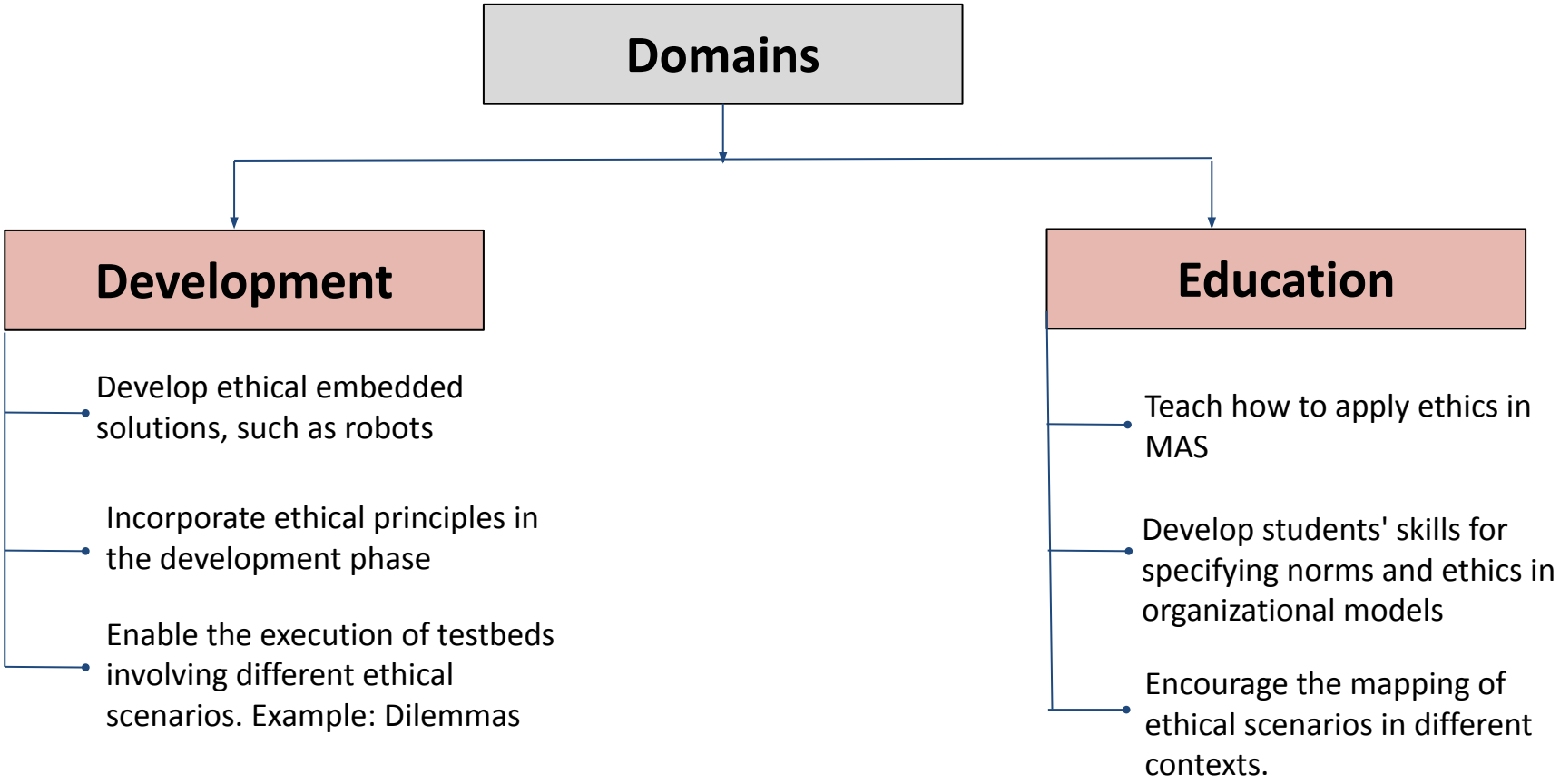
Javino
IDE
chonIDE
+dev. & teaching

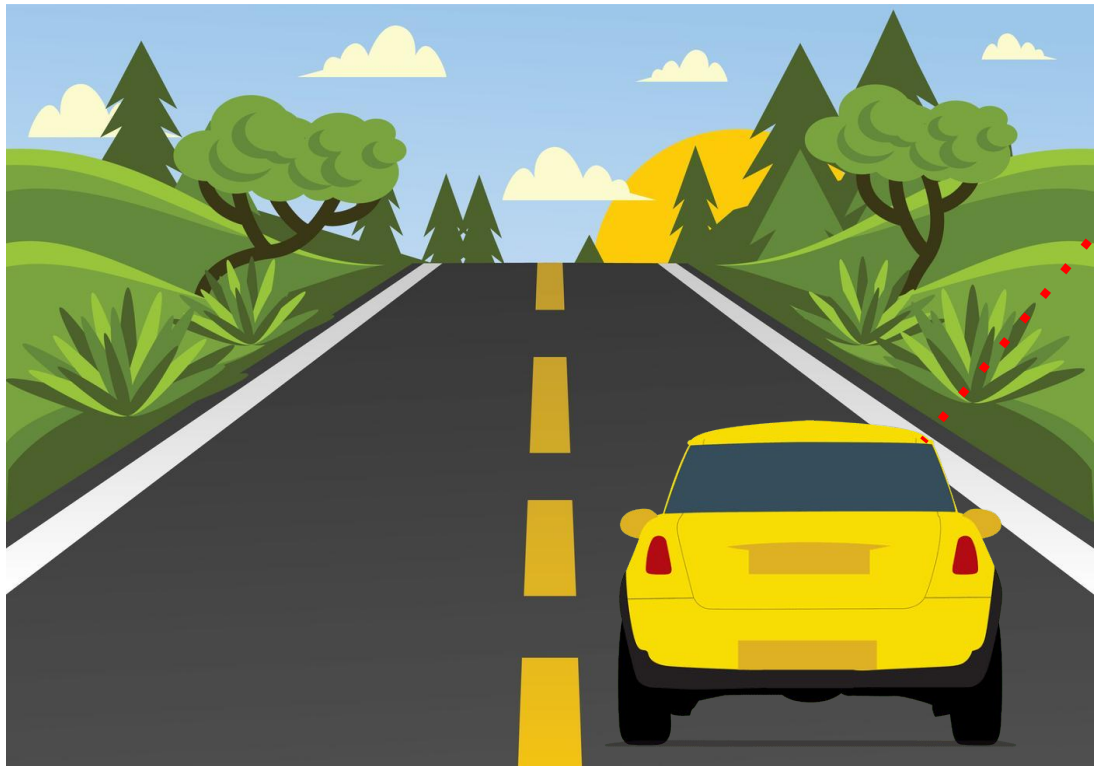
2. ToolKit e Ethics: Opportunities

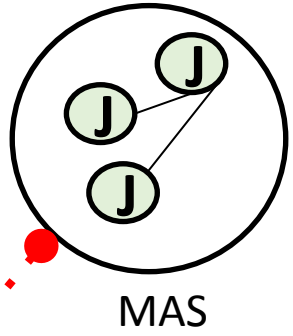
	Ethics in MAS
1 - MAS Development Framework	Some normative frameworks, such as Moise, restrict agents' behavior per established organizational norms. **Whether existing frameworks have sufficient concepts to apply norms and ethics in Embedded MAS is unknown.**
2 - Embedded MAS Development Framework	**There are no organizational and normative restrictions on the behavior of agents.**
3 - Integrated Development Environment (IDE)	**The IDE does not allow the development and teaching learning of MAS with ethical concerns**

2. ToolKit e Ética: Goals



3. Experimental Scenario 1





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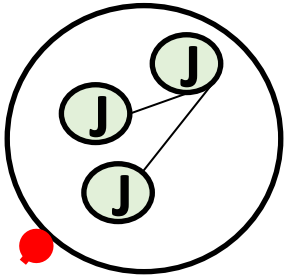
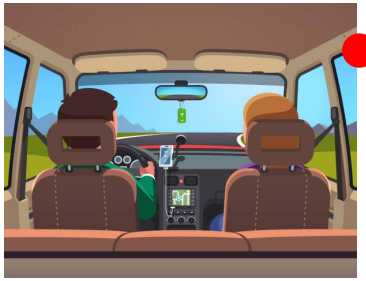


MAS



Somente passageiros adultos

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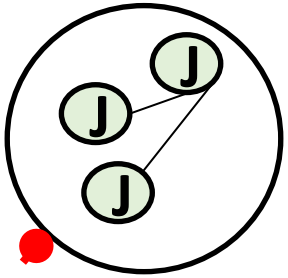

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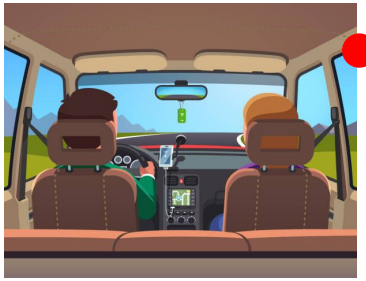

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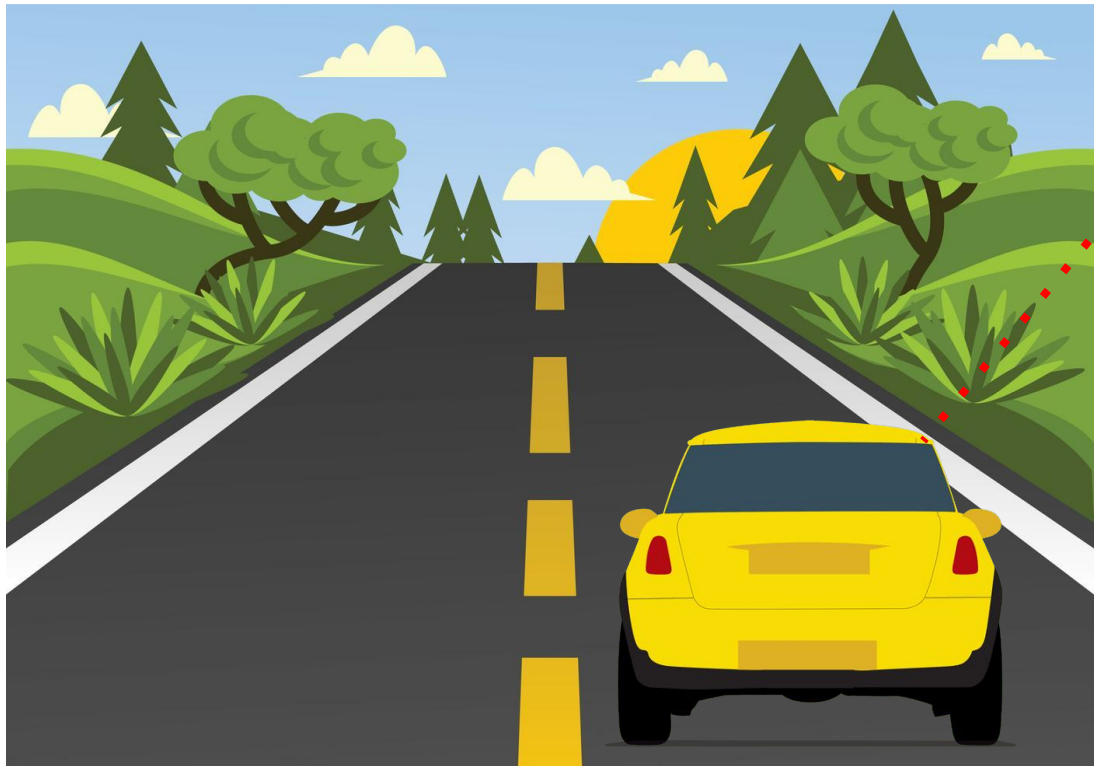

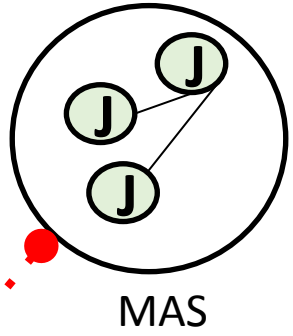

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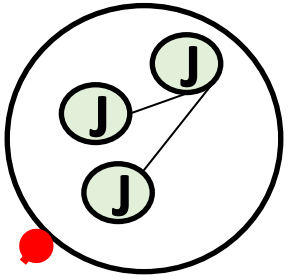

MAS

Passageiros adultos
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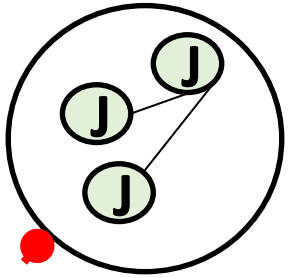

MAS

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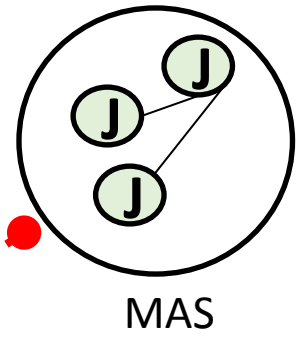
3. Experimental Scenario 2



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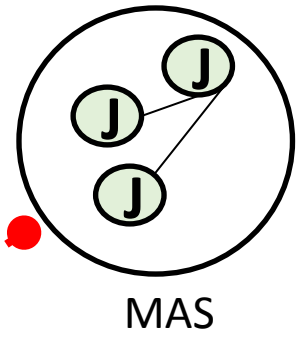

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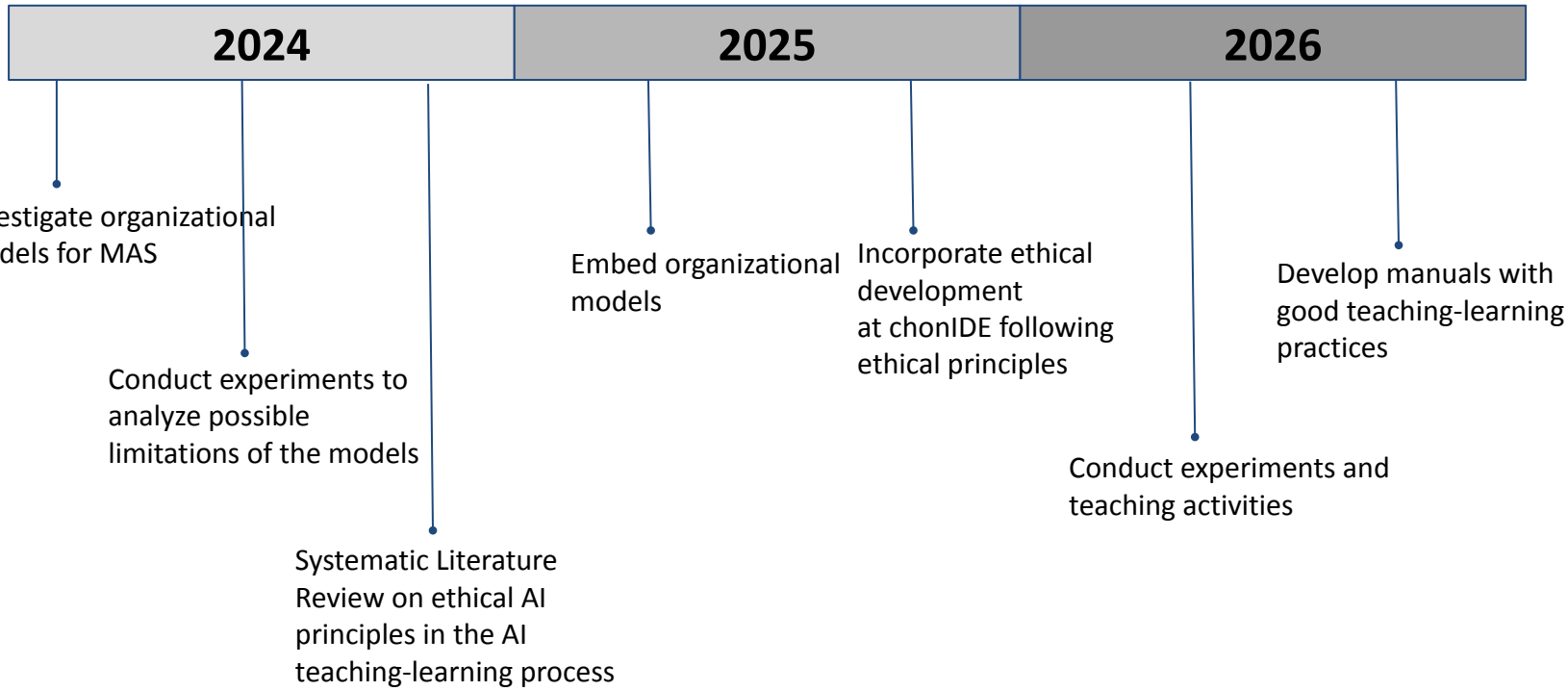
3. Schedule Proposal



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