

Abstractions for Programming Agents and Multiagent Systems

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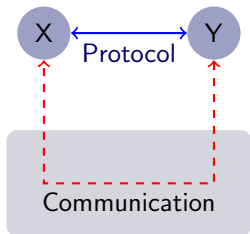
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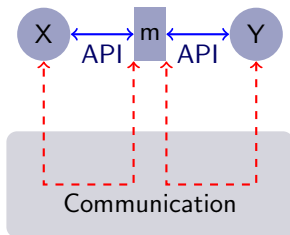
Historical Perspective

Sociotechnical system configurations

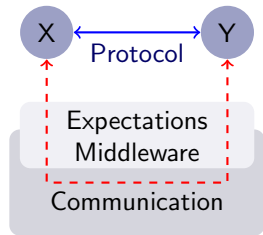
Autonomy: does the technical tier prevent anything a user (in the social tier) would like to do?



Before computers.



Current: machine oriented.
Violates autonomy



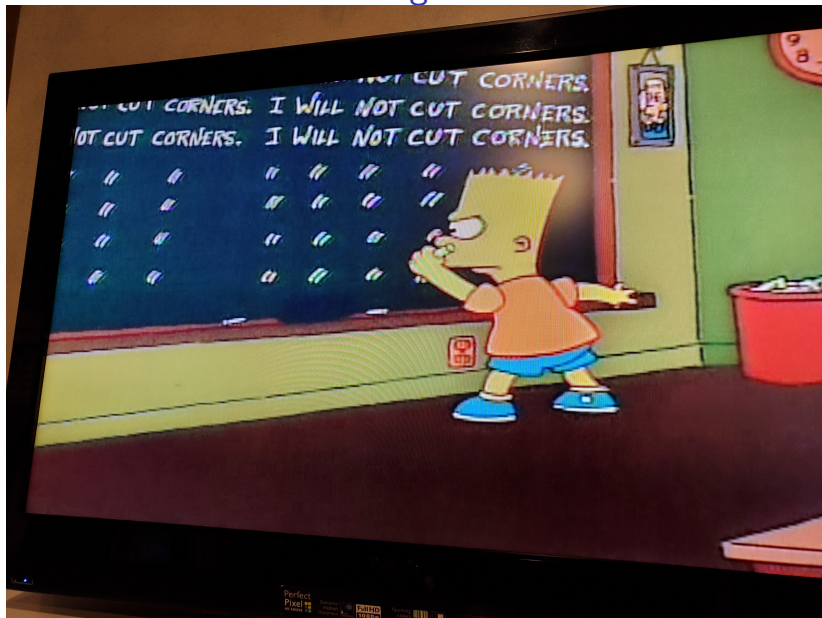
Interaction oriented.
Autonomy is a social
construct; autonomy
mirrors accountability

Benefits of Interaction Orientation

Addressing challenges in Hendler and Berners-Lee (2010)

Benefits	H&BL Challenges
Enhanced autonomy	Creativity
Enhanced accountability	Trust and information accountability
Enhanced modularity	Architecture
High-level abstractions, middleware	Administrative support
Expectations-based interoperation	Enhanced interoperability

When It Comes to Enabling Decentralization ...



The Simpsons, One Fish, Two Fish, Blowfish, Blue Fish
Photo of screen by Munindar Singh