

Computing Research Association, February 21, 2020

Human-Centered Artificial Intelligence: Reliable, Safe & Trustworthy

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Professor, Department of Computer Science

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Photo: BK Adams



Human-Centered AI

Amplify, Augment, Enhance & Empower People

Human-Centered AI

Amplify, Augment, Enhance & Empower People

→ 1000-fold improvements in capabilities

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Business Formation

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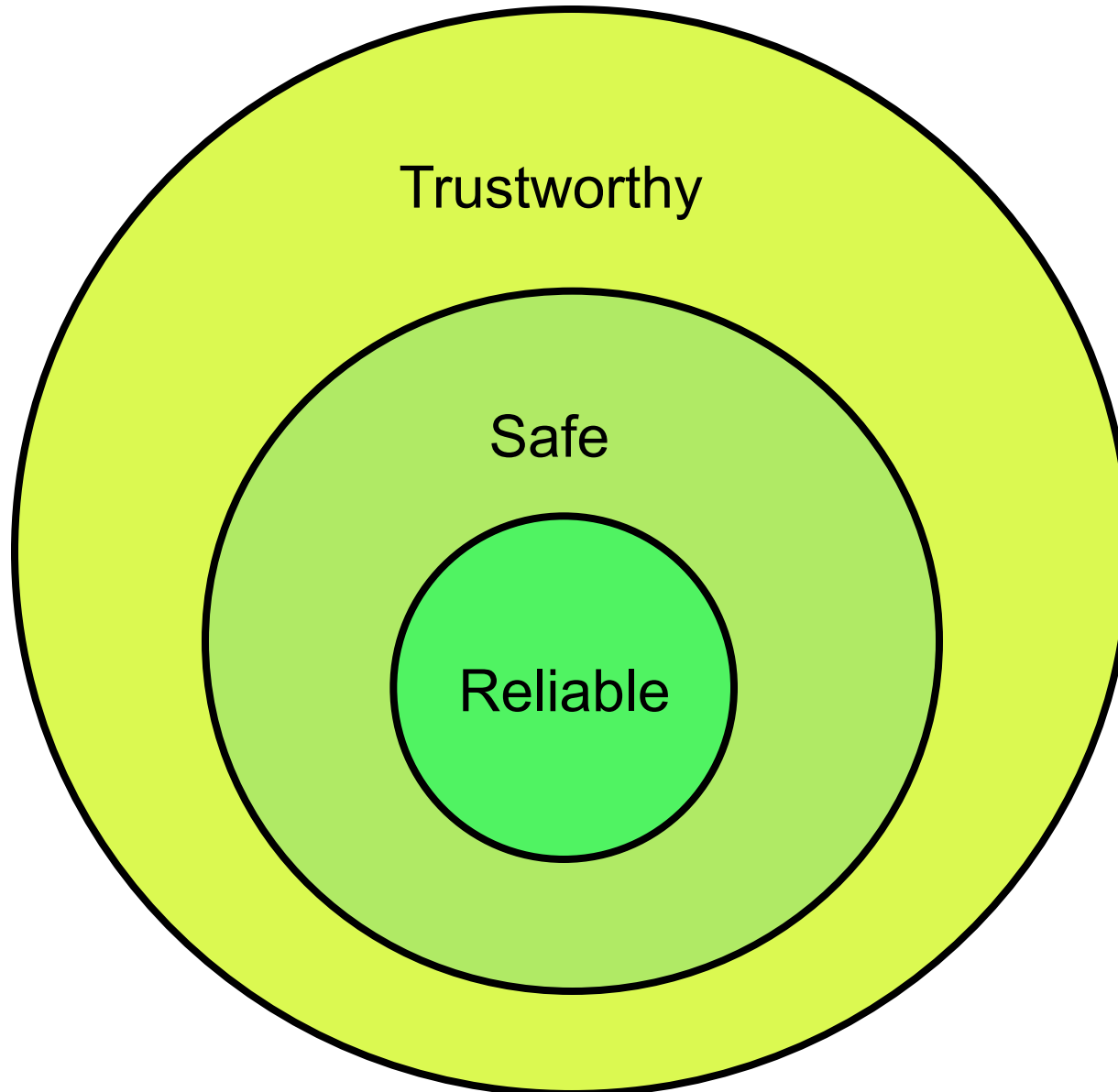
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Business Formation

→ RST: Reliable, Safe & Trustworthy

Human-Centered AI



Independent Oversight
Regulation, Auditing,
Insurance, Industry

Organization
Culture of Safety
Openness

Systems:
Flight Data Recorder
Tested, Fair, Explainable

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→ RST: Reliable, Safe & Trustworthy

→ More people, more creative, more often

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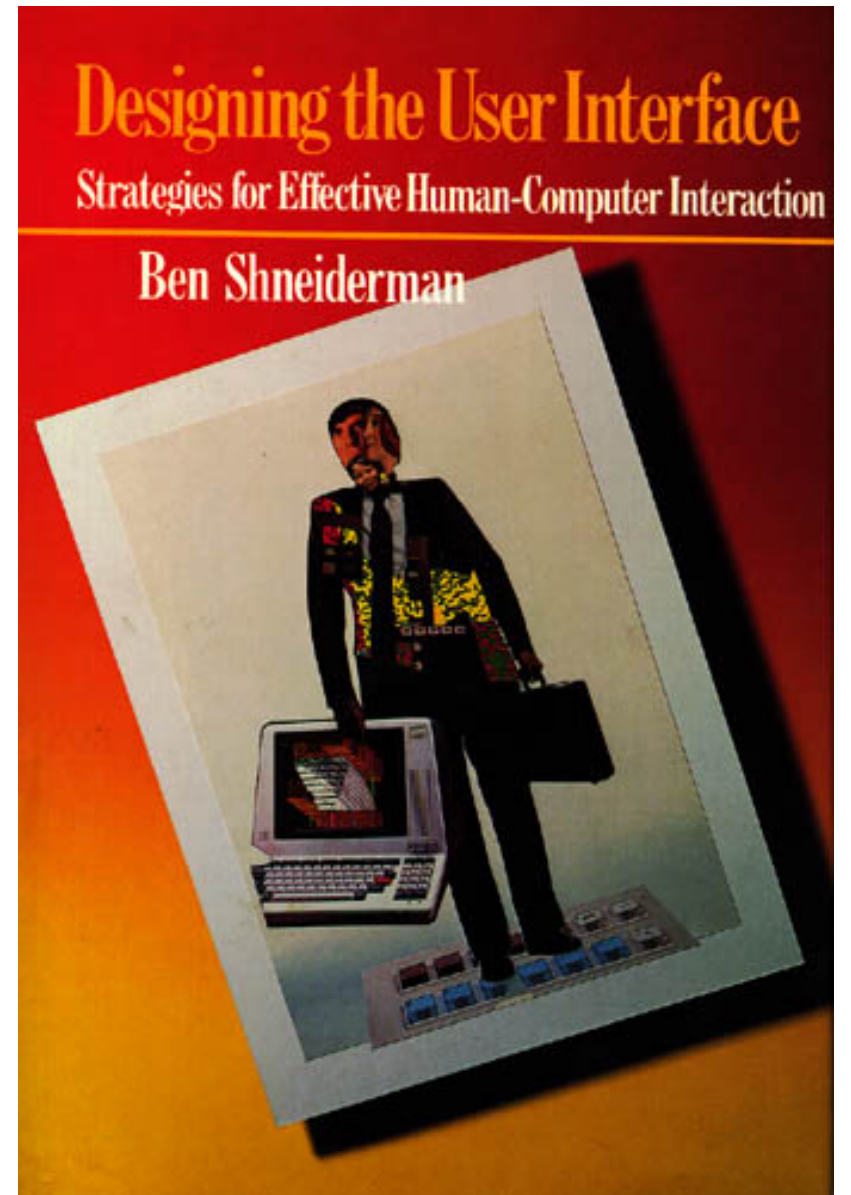
→ RST: Reliable, Safe & Trustworthy

→ More people, more creative, more often

→ Self-efficacy & societal benefits

Designing the User Interface

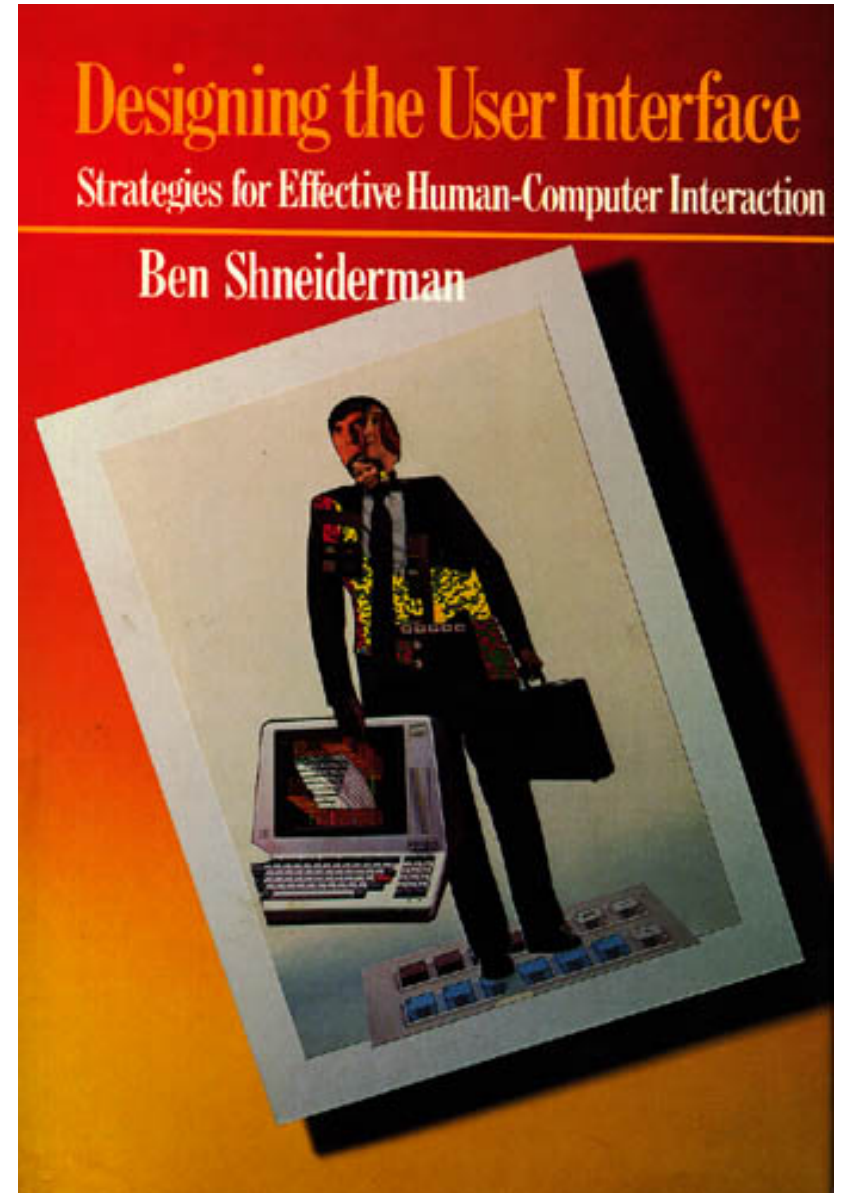
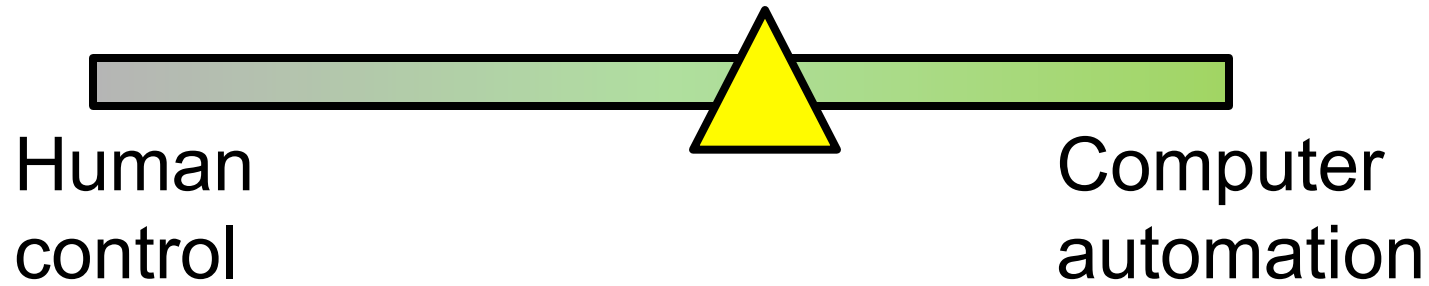
Balancing automation & human control



First Edition: 1986

Designing the User Interface

Balancing automation & human control



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Designing the User Interface

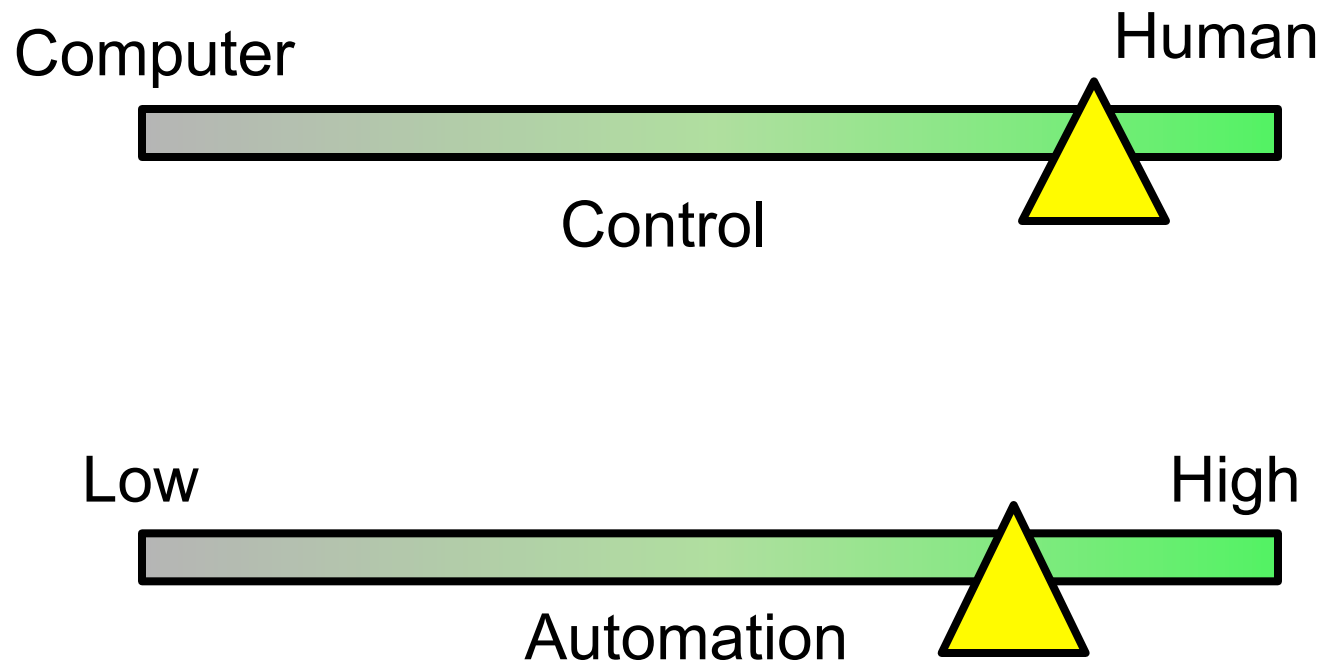
Ensuring human control
while increasing automation



Sixth Edition: 2016

Designing the User Interface

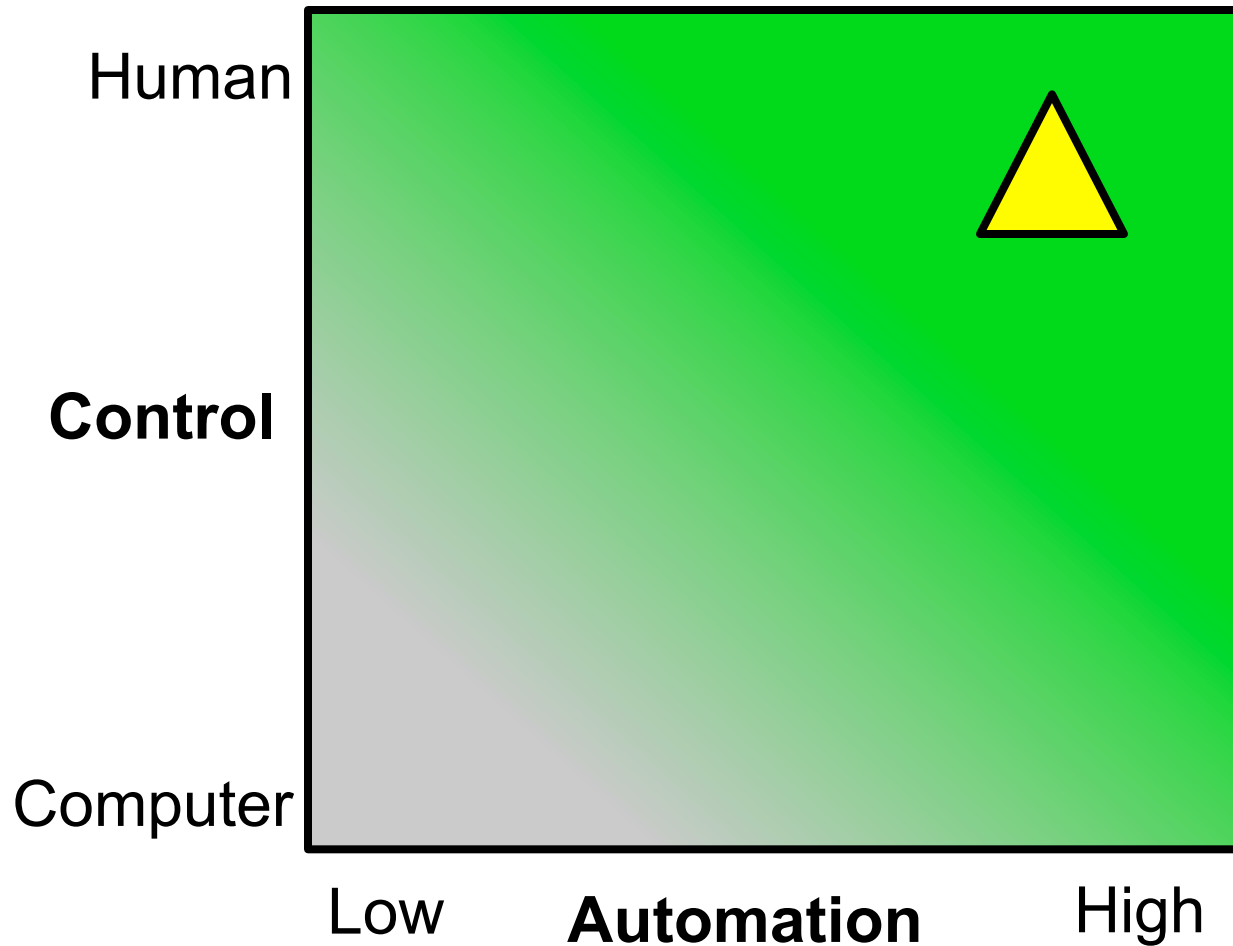
Ensuring human control while increasing automation



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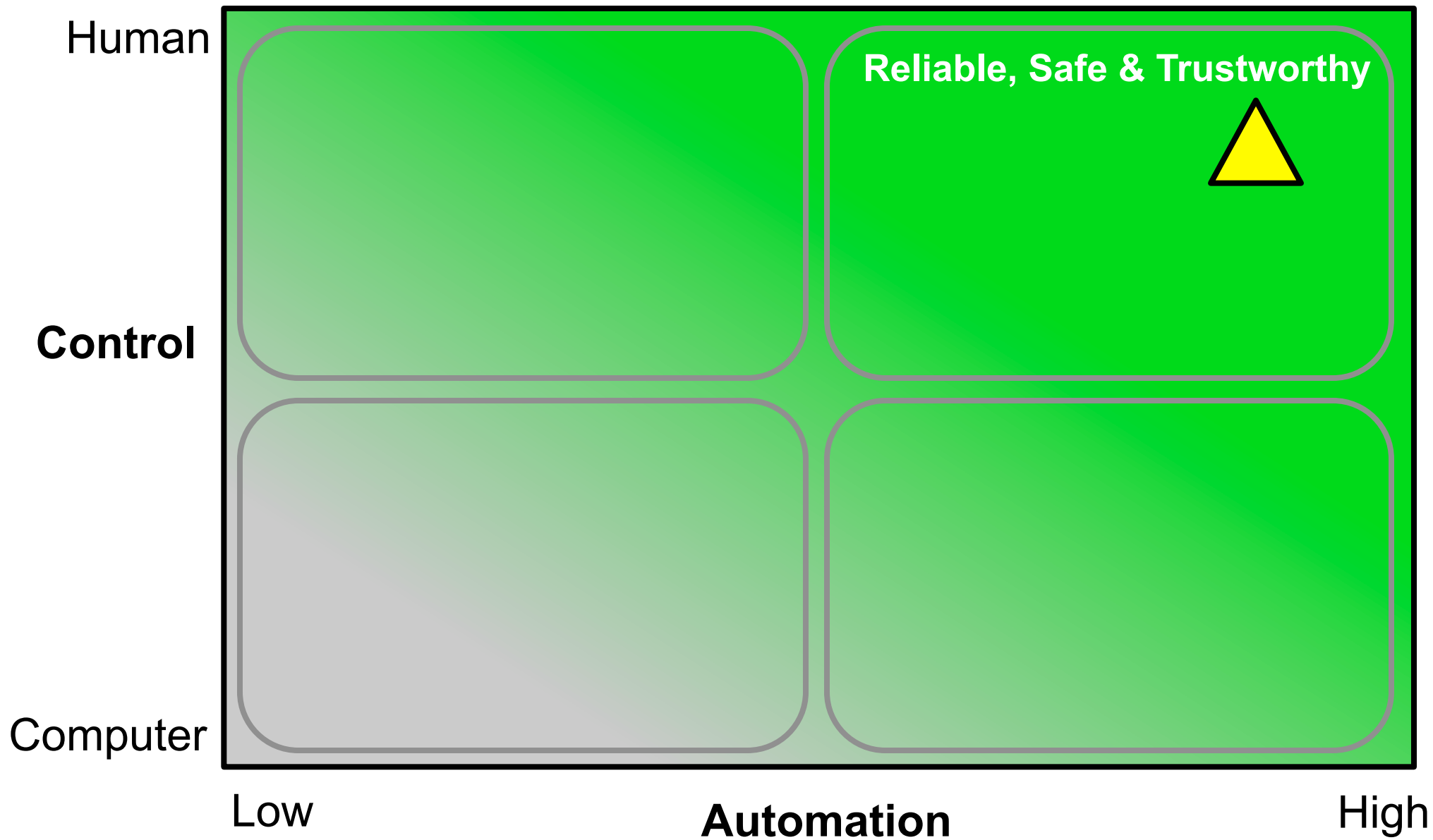
Designing the User Interface

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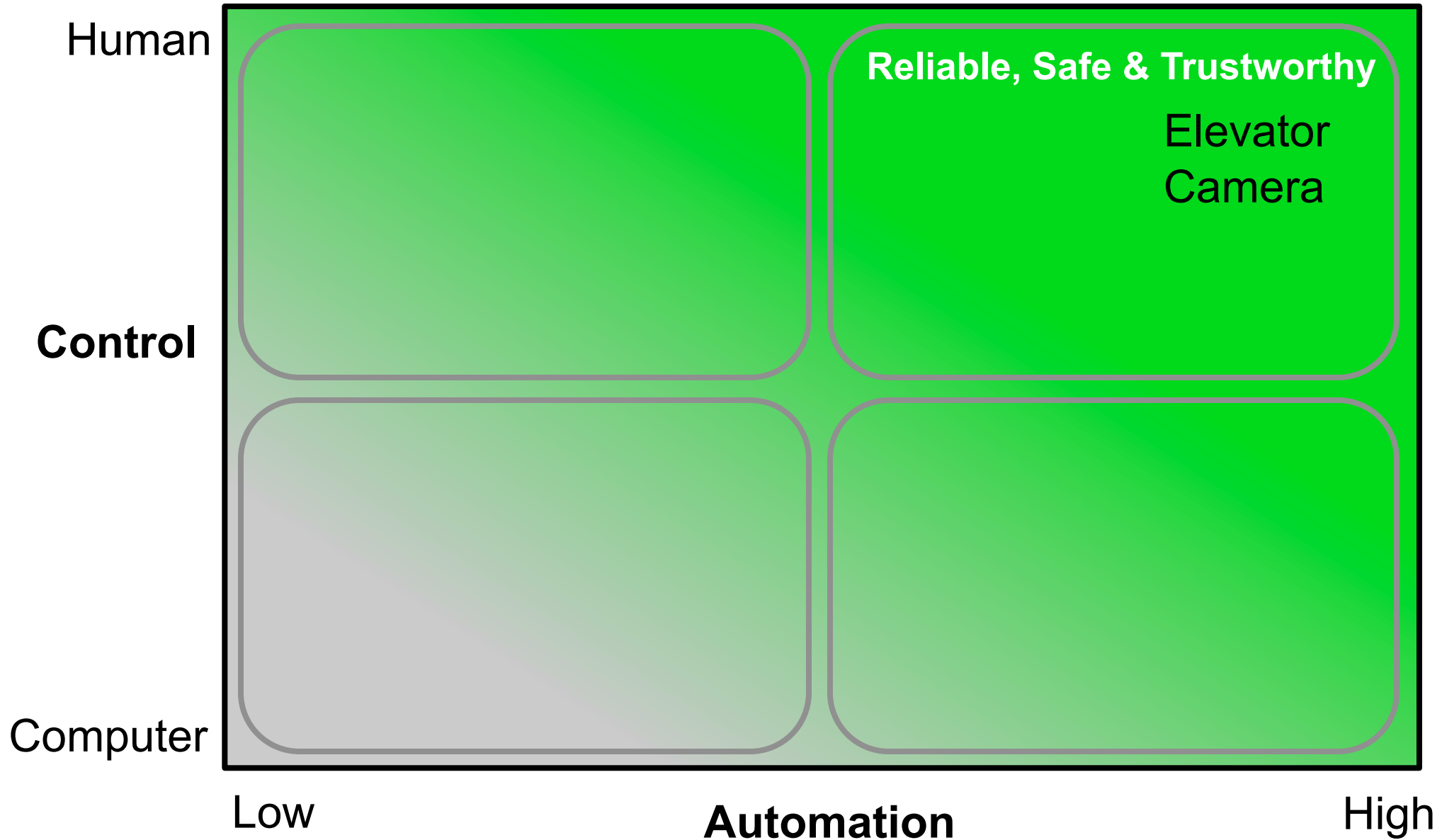


Sixth Edition: 2016

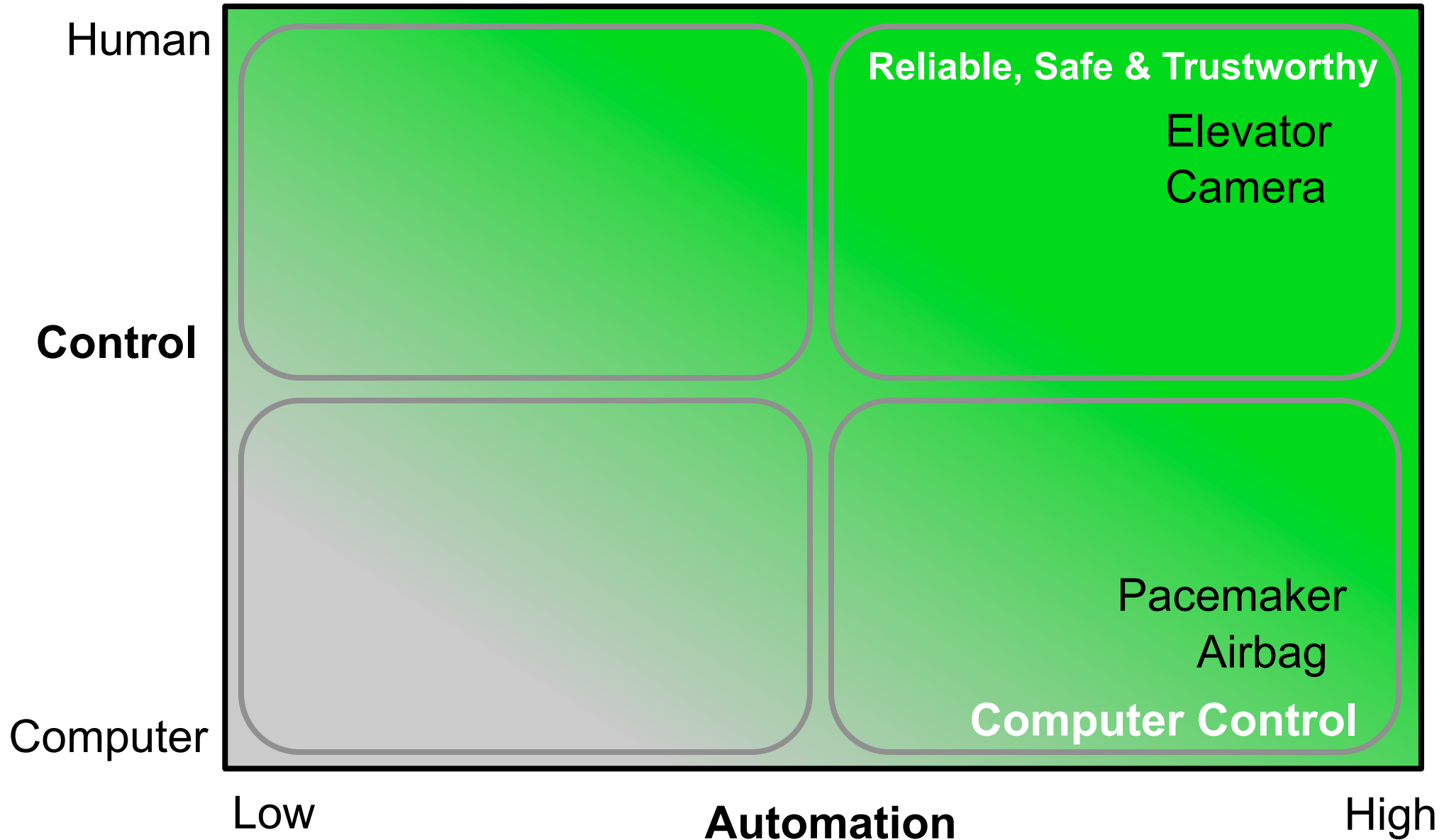
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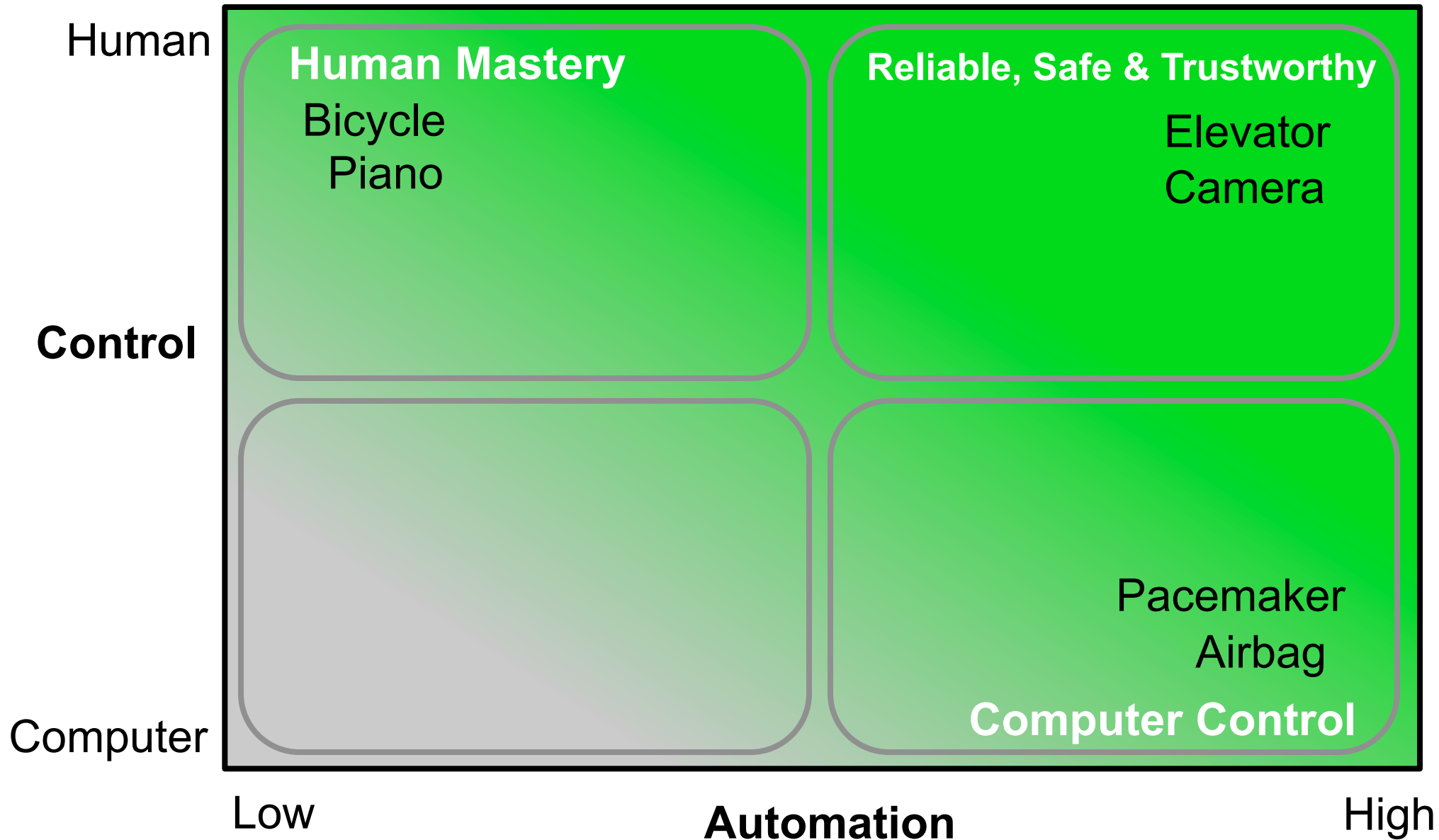
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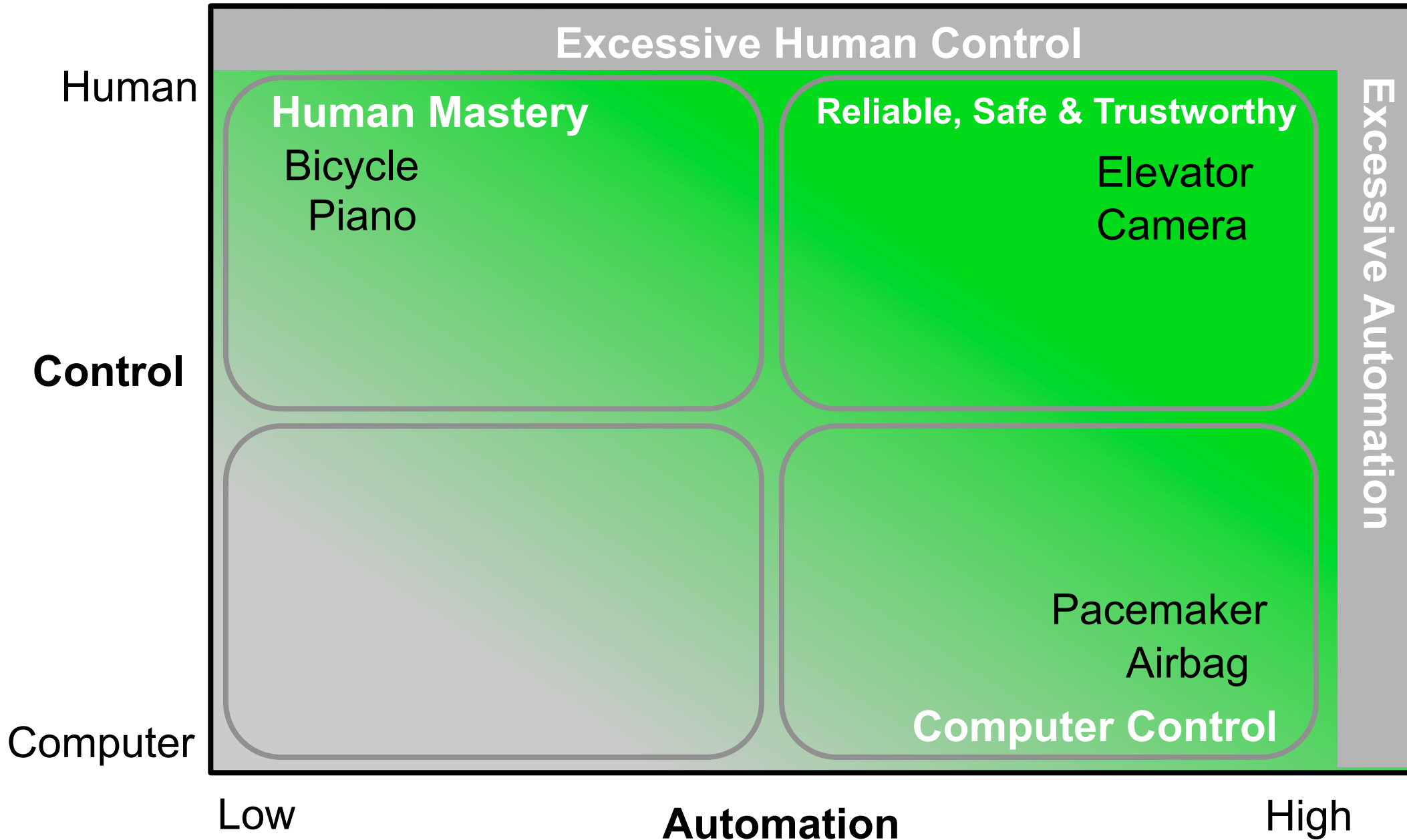
Human-Centered AI



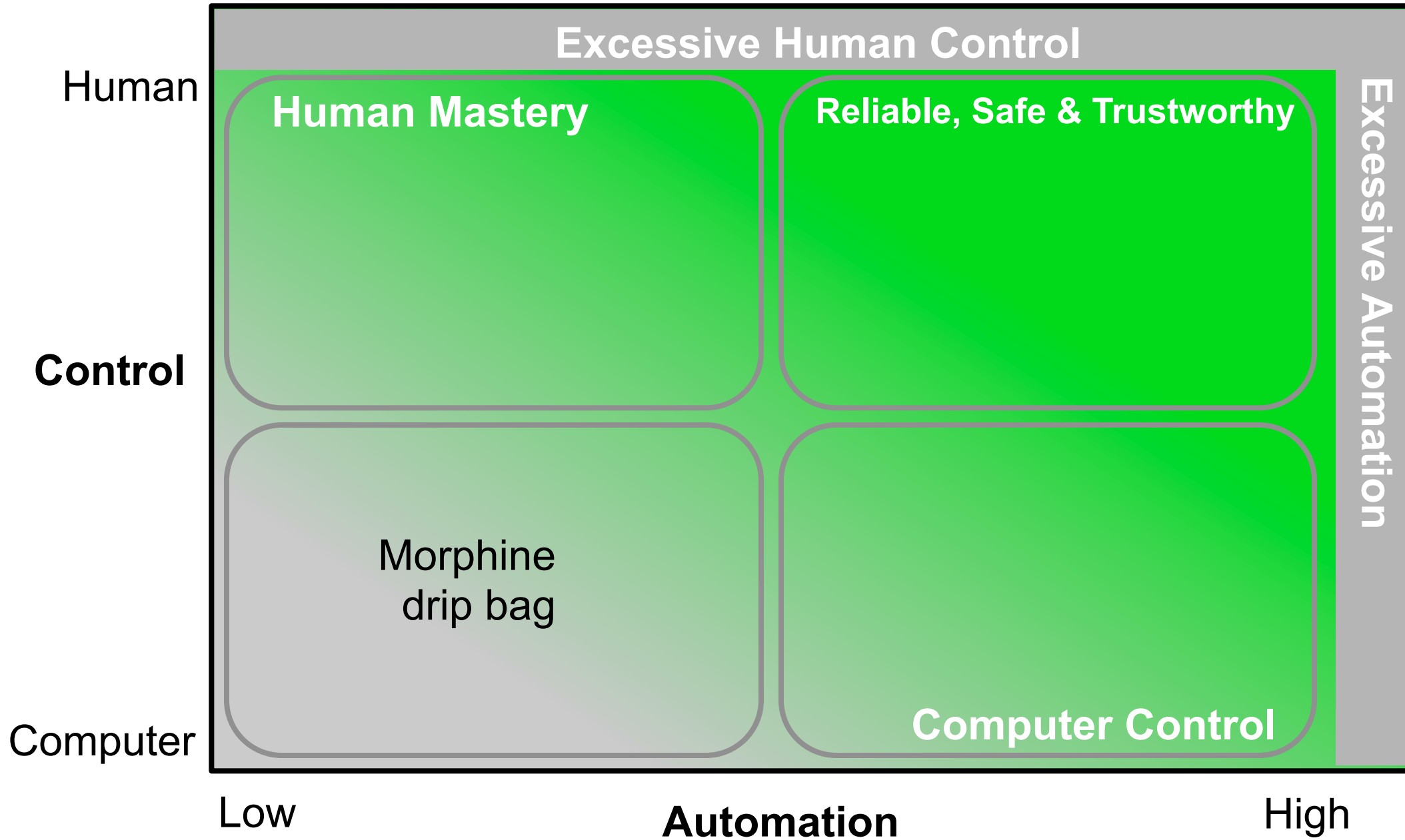
Human-Centered AI



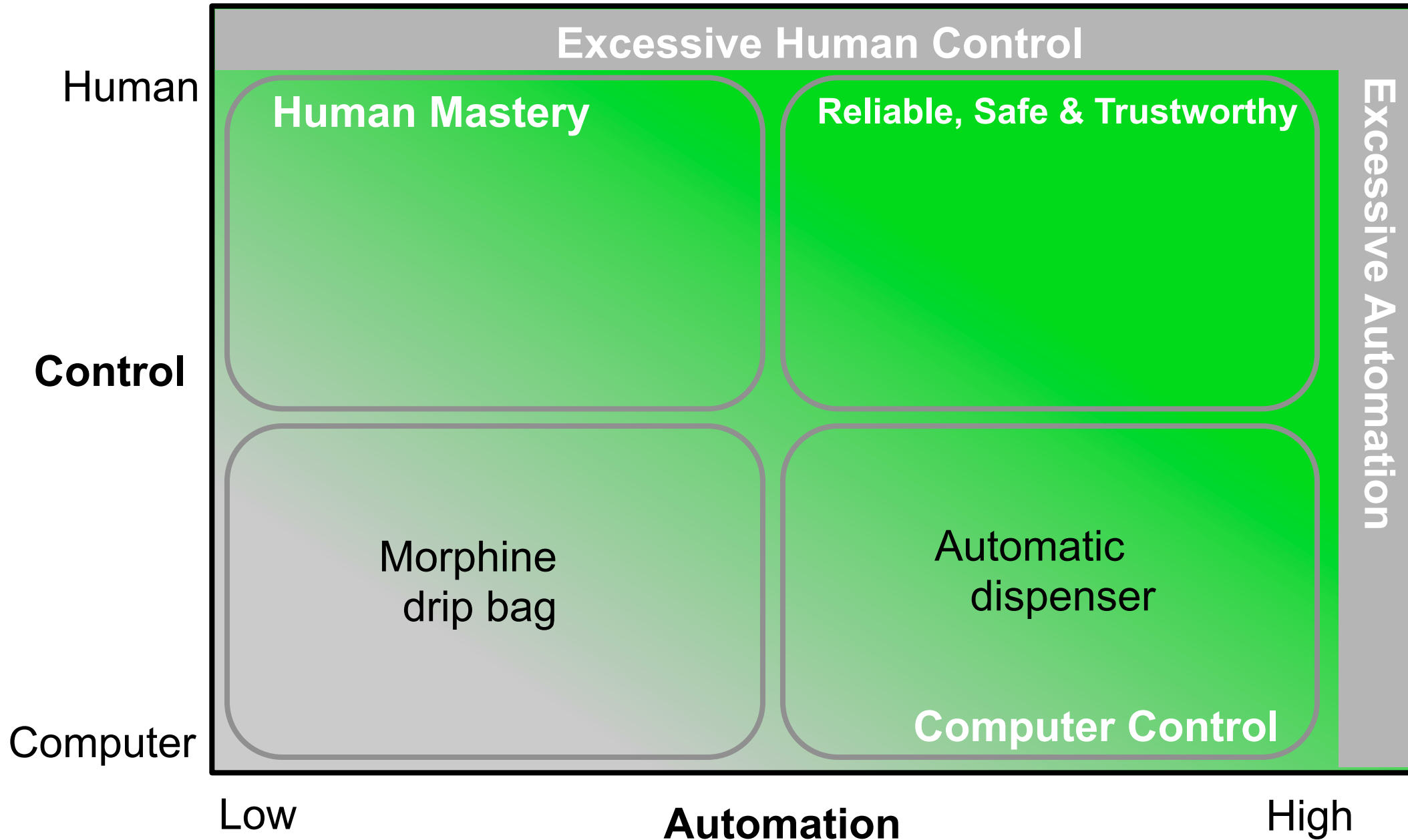
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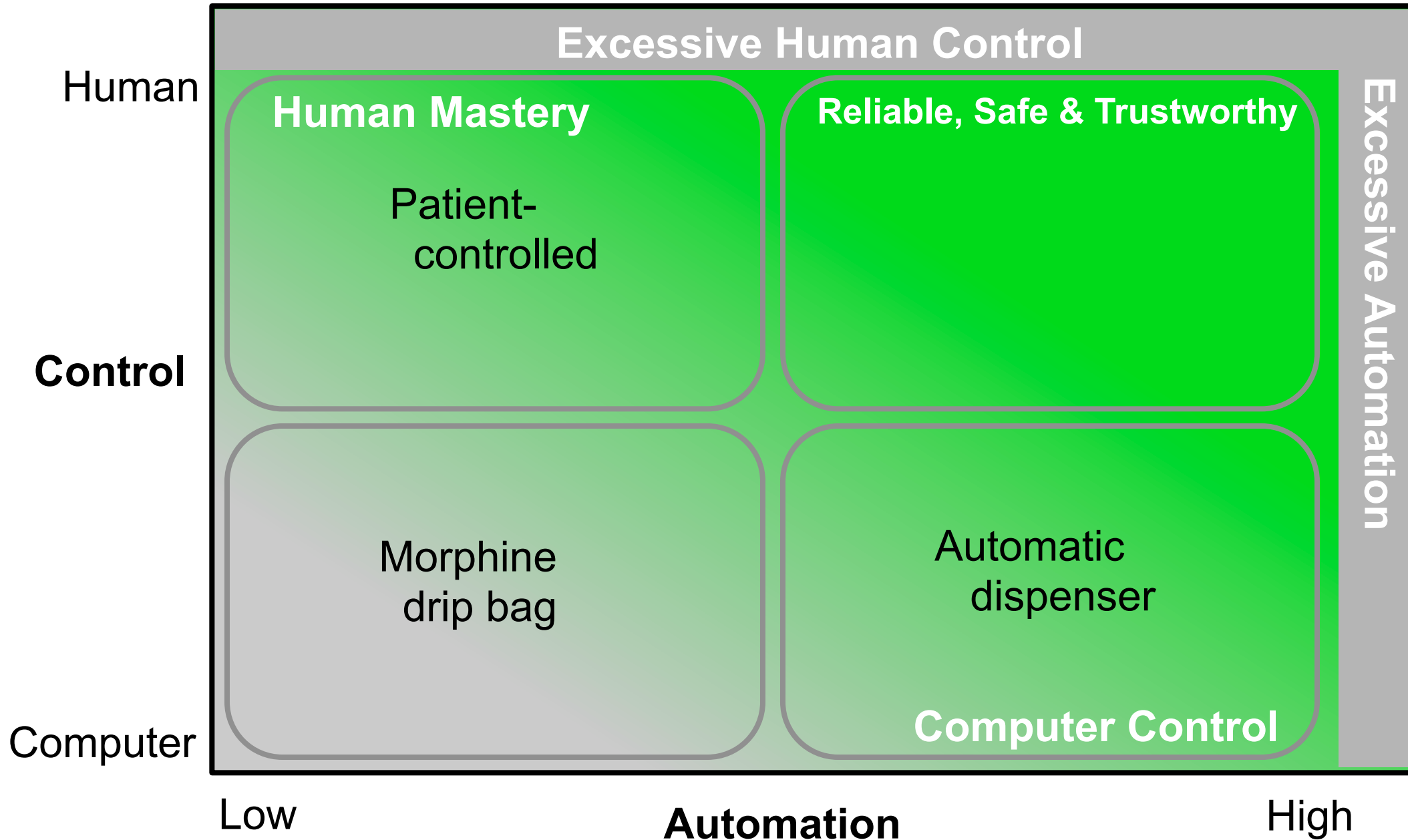
Pain control designs



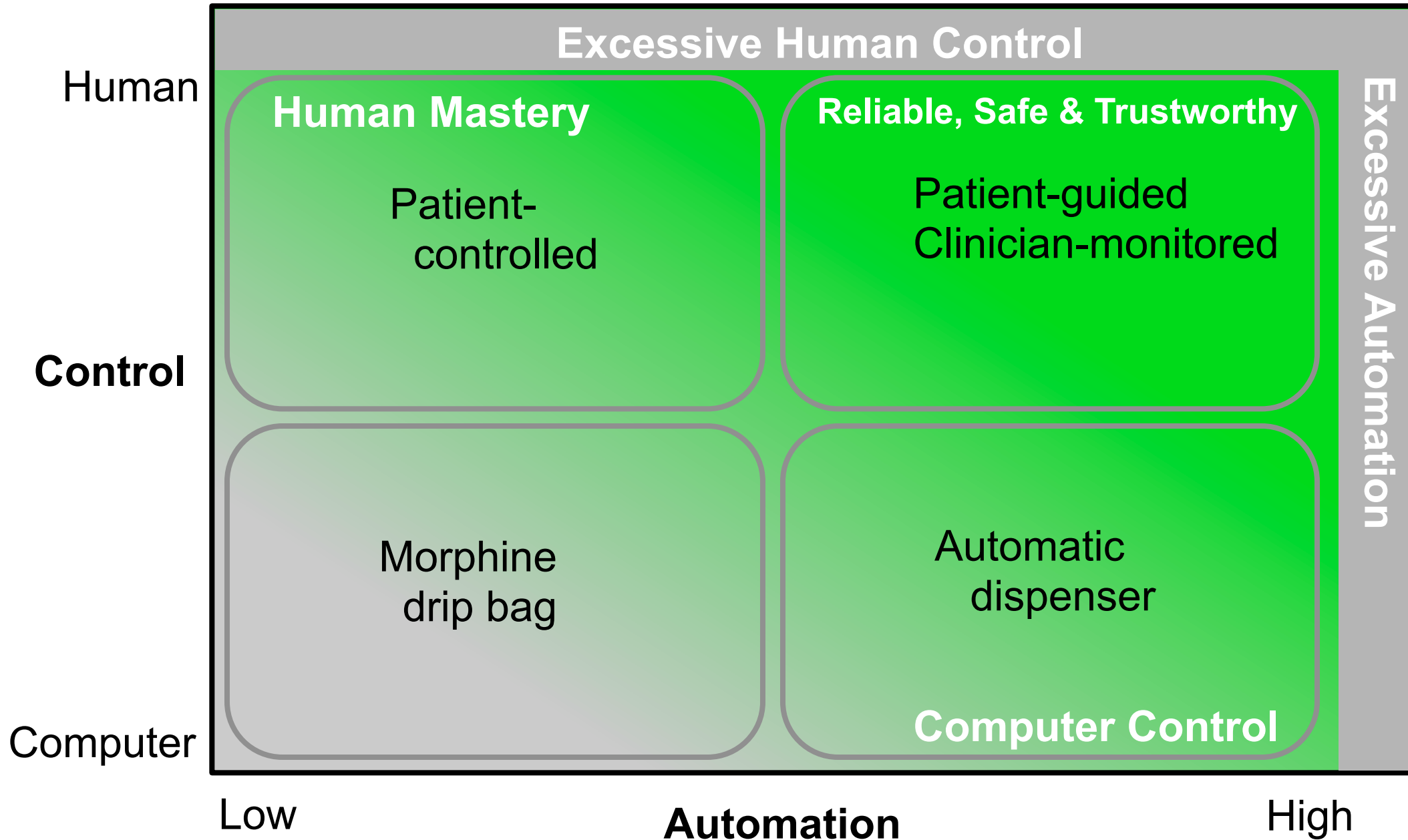
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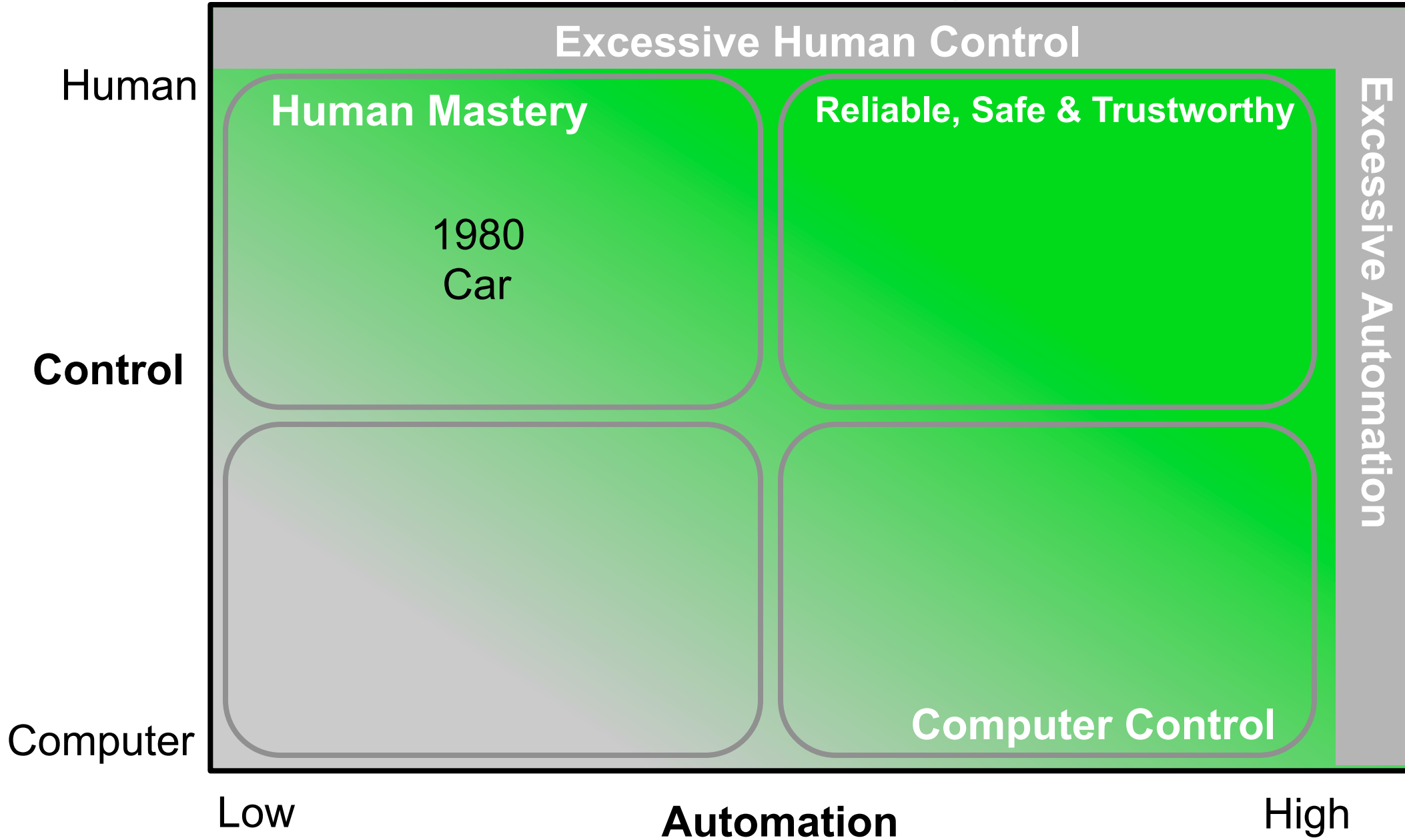
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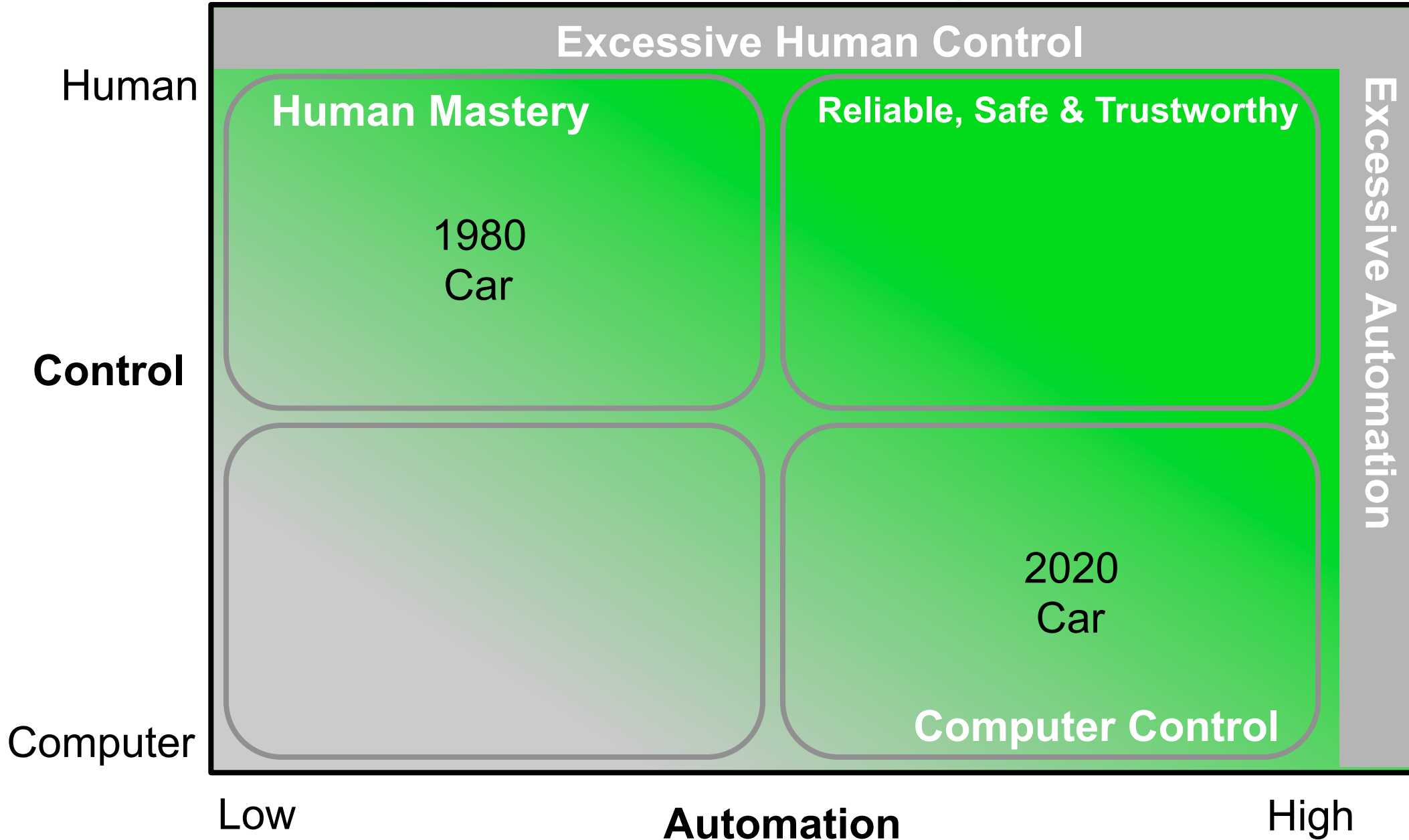
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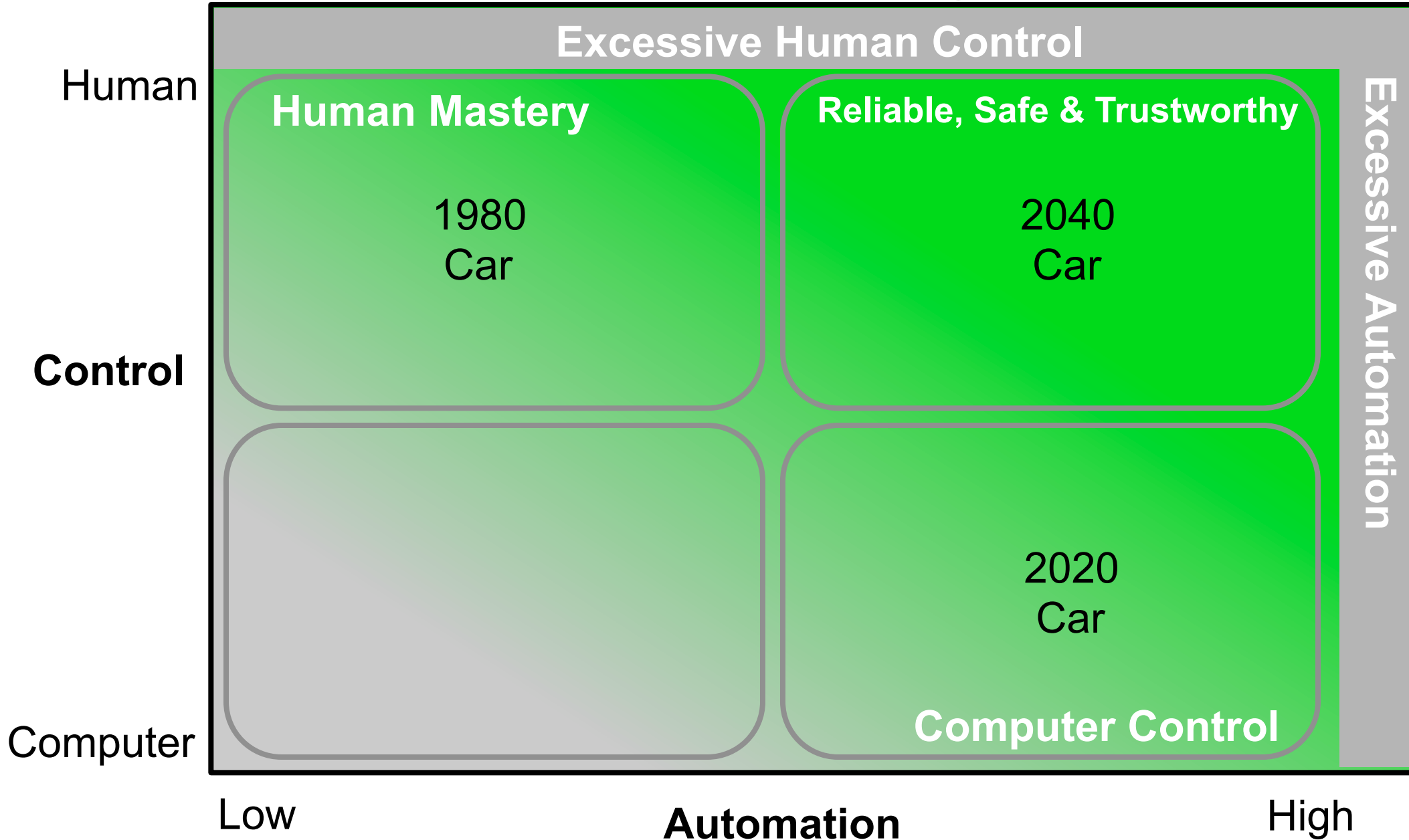
Car control designs



Car control designs



Car control designs



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Human-Centered AI

Assured Human Autonomy

Assured Human Control

Trustworthy Technology

Reliable Automated Systems

Enhancing Human Control of Advanced Systems

Reliable, Safe & Trustworthy Technology

Car control designs

