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# **Student Projects at the Distributed Systems Group University of Kassel**

**U N I K A S S E L  
V E R S I T Ä T**



**VERTEILTE SYSTEME**



# Contents

- Carpe Noctem Robotic Soccer
- Evolutionary Optimization
- ADDO: Self-Management
- Questions?



# Carpe Noctem Robotic Soccer



- What?  
Autonomous Mobile Soccer Robots.  
Ranked 7th at RoboCup World Championships 2006.
- Focus?  
Create and learn behavior, communicate, collaborate,  
monitor, vision processing, . . .
- Who?  
P. Baer, R. Reichle, M. Wagner, K. Baumgart, D. Saur,  
J. Wollenhaupt, S. Triller, T. Amma, F. Seute, A. Witsch,  
S. Opfer, M. Segatz, ...



# Carpe Noctem Robotic Soccer

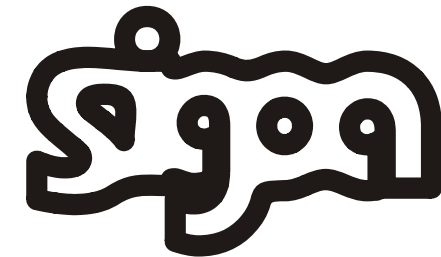
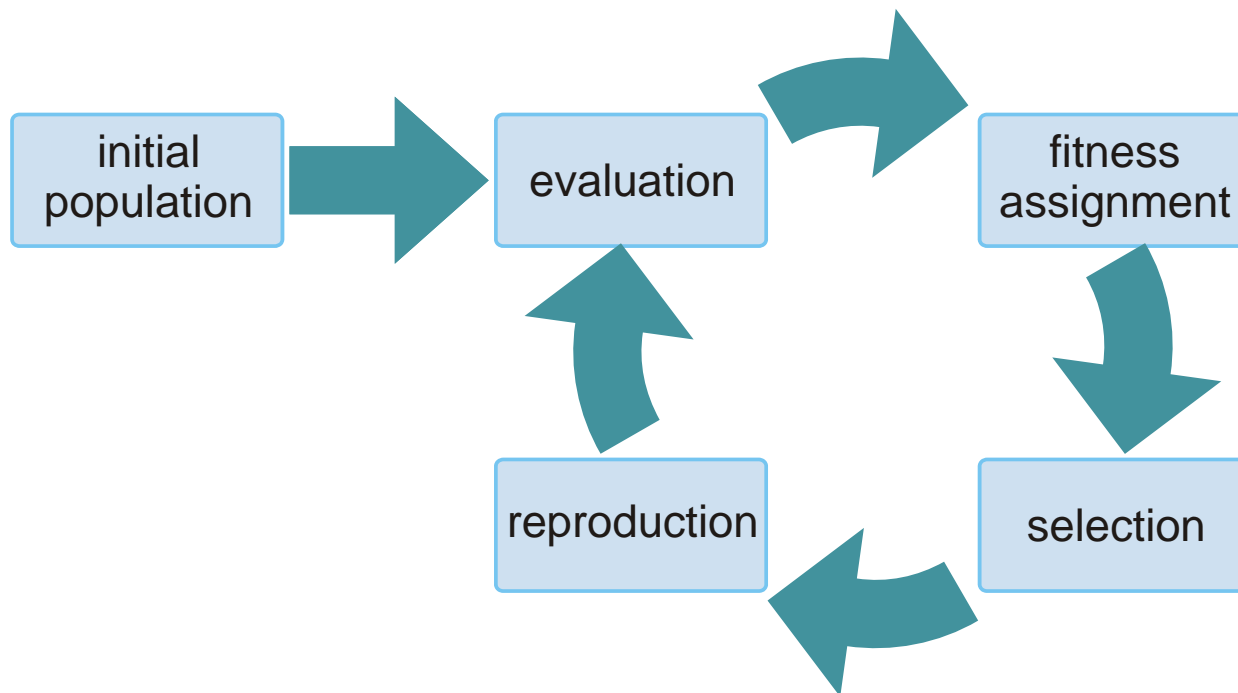
- Carpe Noctem: German Open 2007



# Evolutionary Algorithms

(T. Weise)

- Algorithms find optimal solutions for problems using the methods of nature
- Genetic Programming = evolving algorithms and Programs





# Evolutionary Algorithms

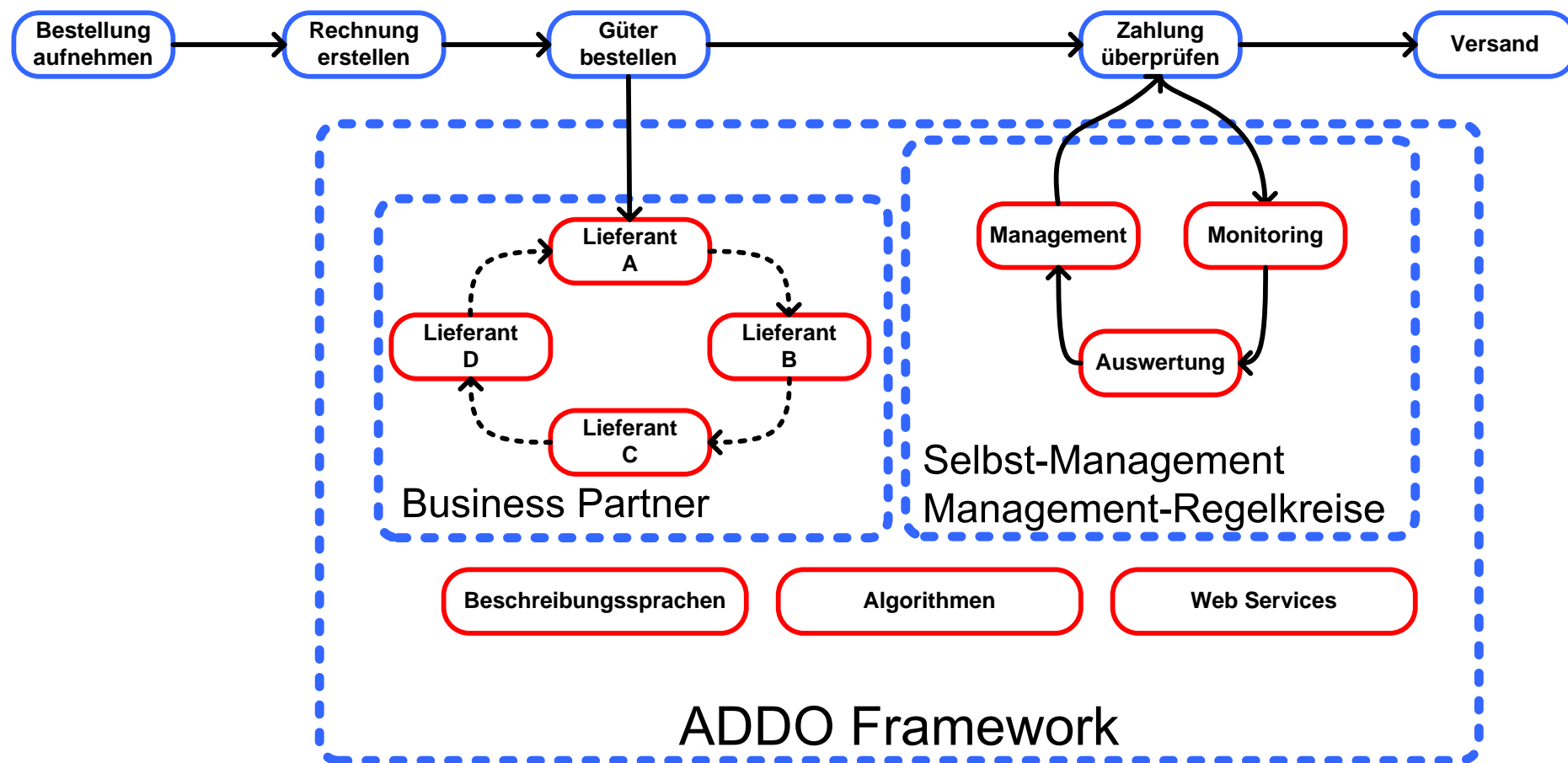
(T. Weise)

- Distribute the EA via P2P, CS, JXTA, WebServices
- Comparative Studies, Test Series
- Interfacing with other optimization tools
- Data Mining: 29<sup>th</sup> Place in Data Mining Cup'07  
(This year: together with Wissensverarbeitung)
- <http://www.it-weise.de/documents/files/W2007DGPFe.pdf>
- Microsoft Student Program / Imaging Cup  
<http://www.studentprogram.de/unikassel/>



# ADD0 Self-Management

(S. Bleul)





# Topics

(S. Bleul)

- Simulation of Web Services
  - GUIs, performance simulation, message simulation
- Language extensions for Web Services
  - Extensions for Management and Monitoring
- Automate of Service Management
  - Process management, Service Management



Automatic Service Brokering in  
Service Oriented Architectures



Thanks for your kind attention.

## Questions?

Frameworks available as Open-Source at

Robots: <http://carpenoctem.das-lab.net/>

Sigoa: <http://www.sigoa.org/>

Addo: <http://www.vs.uni-kassel.de/ADDO/>

Ebook: <http://www.it-weise.de/>

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