

Research through Design



模型/规律主题

- Mapping Machine Learning Advances From HCI Research to Reveal Starting Places for Design Innovation (姚梦婷)
- Towards Algorithmic Experience: Initial Efforts for Social Media Contexts (周嘉伟)
- Gamification for Self-Tracking: From World of Warcraft to the Design of Personal Informatics Systems (张凯筑 - 人类学研究方法 - 魔兽世界)
- Patterns for How Users Overcome Obstacles in Voice User Interfaces (谢冰瑶)

HCI微观主题

- Fingers' Range and Comfortable Area for One-Handed Smartphone Interaction Beyond the Touchscreen (於典)
- Touch Your Heart: A Tone-aware Chatbot for Customer Care on Social Media (王禹溪)
- Predicting Human Performance in Vertical Menu Selection Using Deep Learning (祁忠琪) (深度学习微观主题)
- Philosophers Living with the Tilting Bowl (邹文茵)
- AdaM- Adapting Multi-User Interfaces for Collaborative Environments in Real-Time (陈文倩)
- When David Meets Goliath: Combining Smartwatches with a Large Vertical Display for Visual Data Exploration (郭嘉豪)
- BreathVR: Leveraging Breathing as a Directly Controlled Interface for Virtual Reality Games (沈诚仪)
- Designing Coherent Gesture Sets for Multi-scale Navigation on Tabletops (毛路锦)

Research for Design

On the role of computational support for designers in action



计算机辅助设计 (图形学)

- Multi-Content GAN for Few-Shot Font Style Transfer 宋凯莉
- Adaptive-precision framework for SGD using deep Q-learning
- Deep Thermal Imaging: Proximate Material Type Recognition in the Wild through Deep Learning of Spatial Surface Temperature Patterns
- DeepWriting: Making Digital Ink Editable via Deep Generative Modeling
- Embedding QR Codes onto B-spline Surfaces for 3D Printing
- ExtVision: Augmentation of Visual Experiences with Generation of Context Images for Peripheral Vision Using Deep Neural Network
- CAD / FeatureNet: Machining feature recognition based on 3D Convolution Neural Network
- CAD / One-shot generation of near-optimal topology through theory-driven machine learning
- Parametric Design for Human Body Modeling by Wireframe-Assisted Deep Learning 深度学习图形学

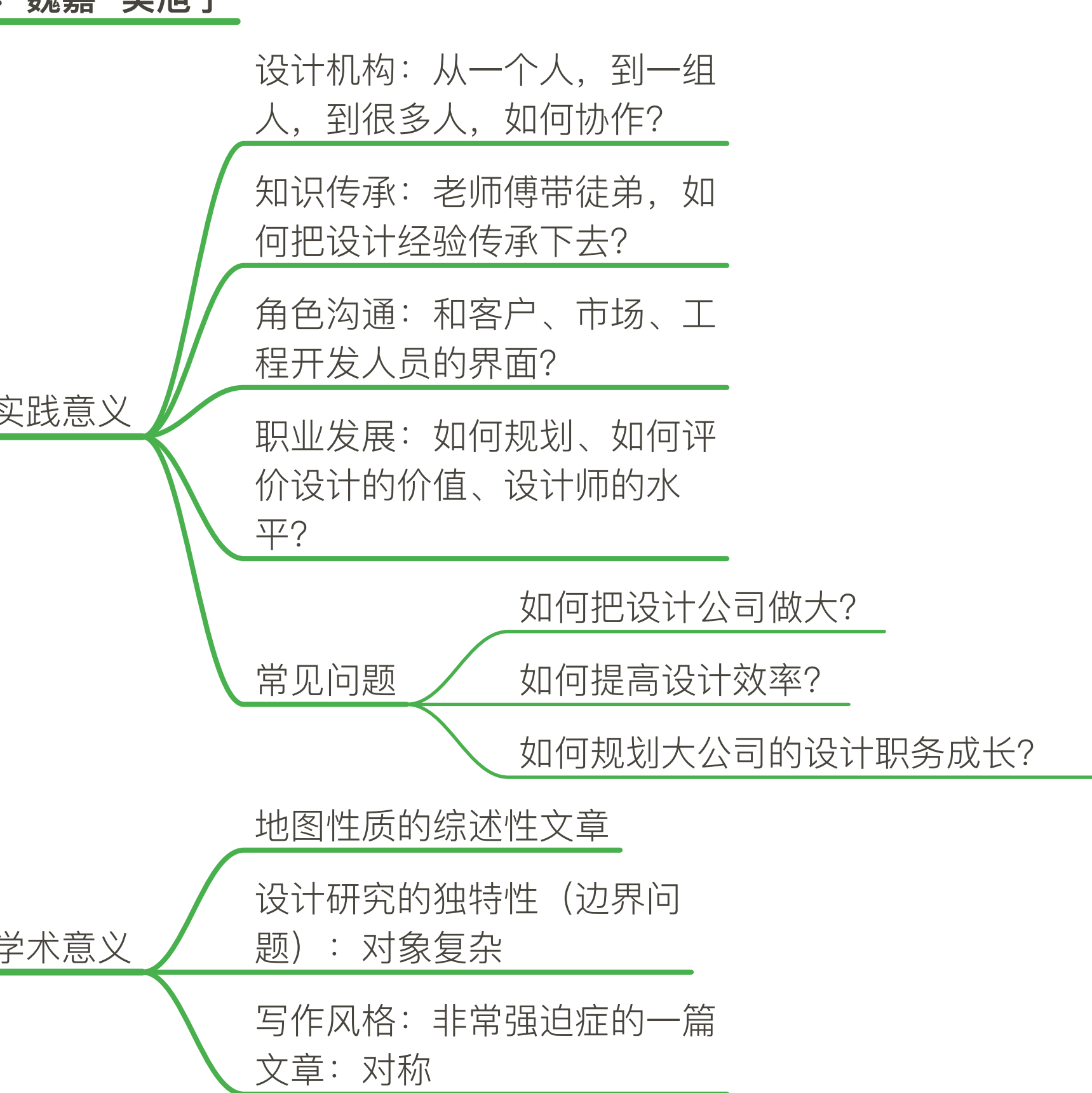
Research in Design



分享

- PPT: 赵芮
- 脑图: 魏嘉 吴旭宁

论文总体



the mental processes of designers.

- the behavior of designers in action
- design thinking
- the mechanisms of knowing of the design discipline
- the notion of design expertise

设计的行为 distinctive common actions

- interpreting design situations
- Co-evolving problems and solutions
- Recalling patterns of organization
- Storing and resting expert knowledge from specific design domains
- Dividing tasks in distributed cognitive systems

文章贡献

- Model of interactions among the main actions that designers perform in design tasks
- Characterization of the current computational support for designers in action
- Taxonomy of human-based, computer-aided, computer-based or computer-augmented actions
- Identification of challenges in computationally supporting the use of tacit knowledge.

设计师的角色

- novice
- beginner
- competent
- expert
- master
- visionary

设计: 一种行为

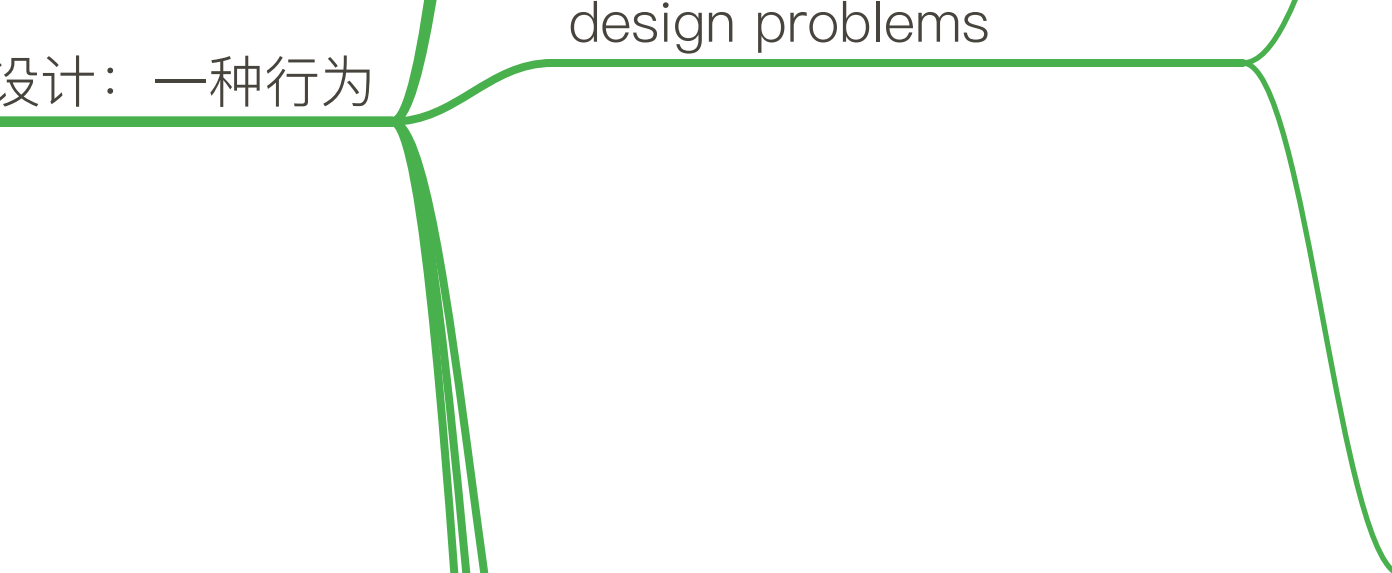
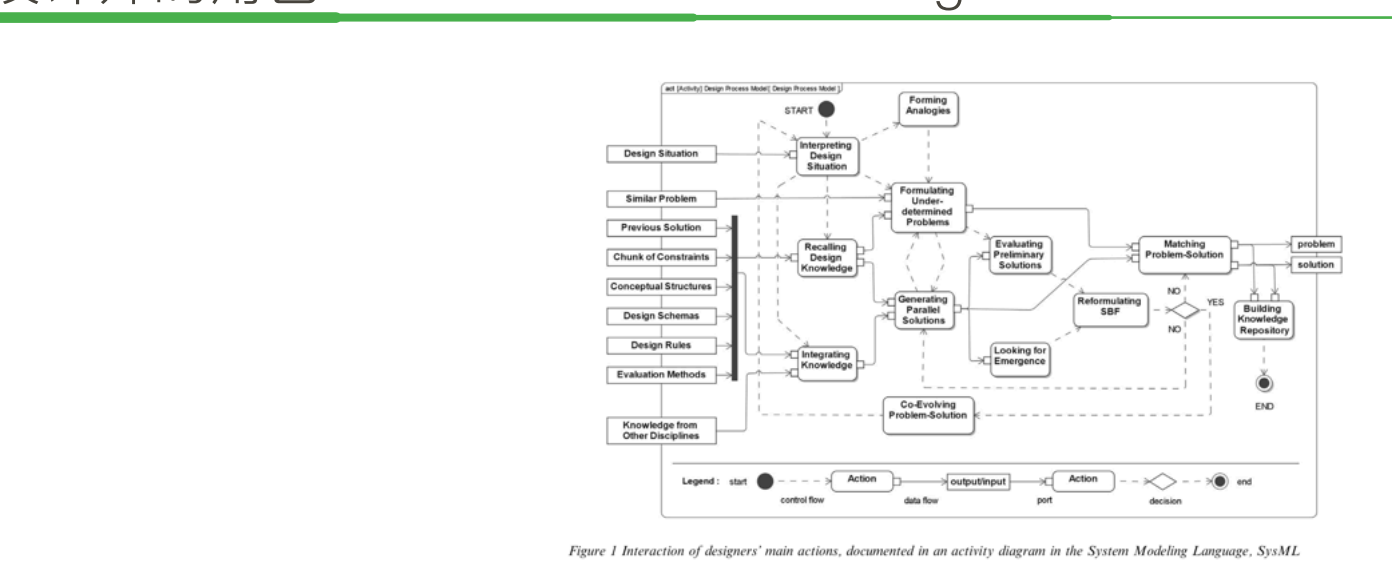
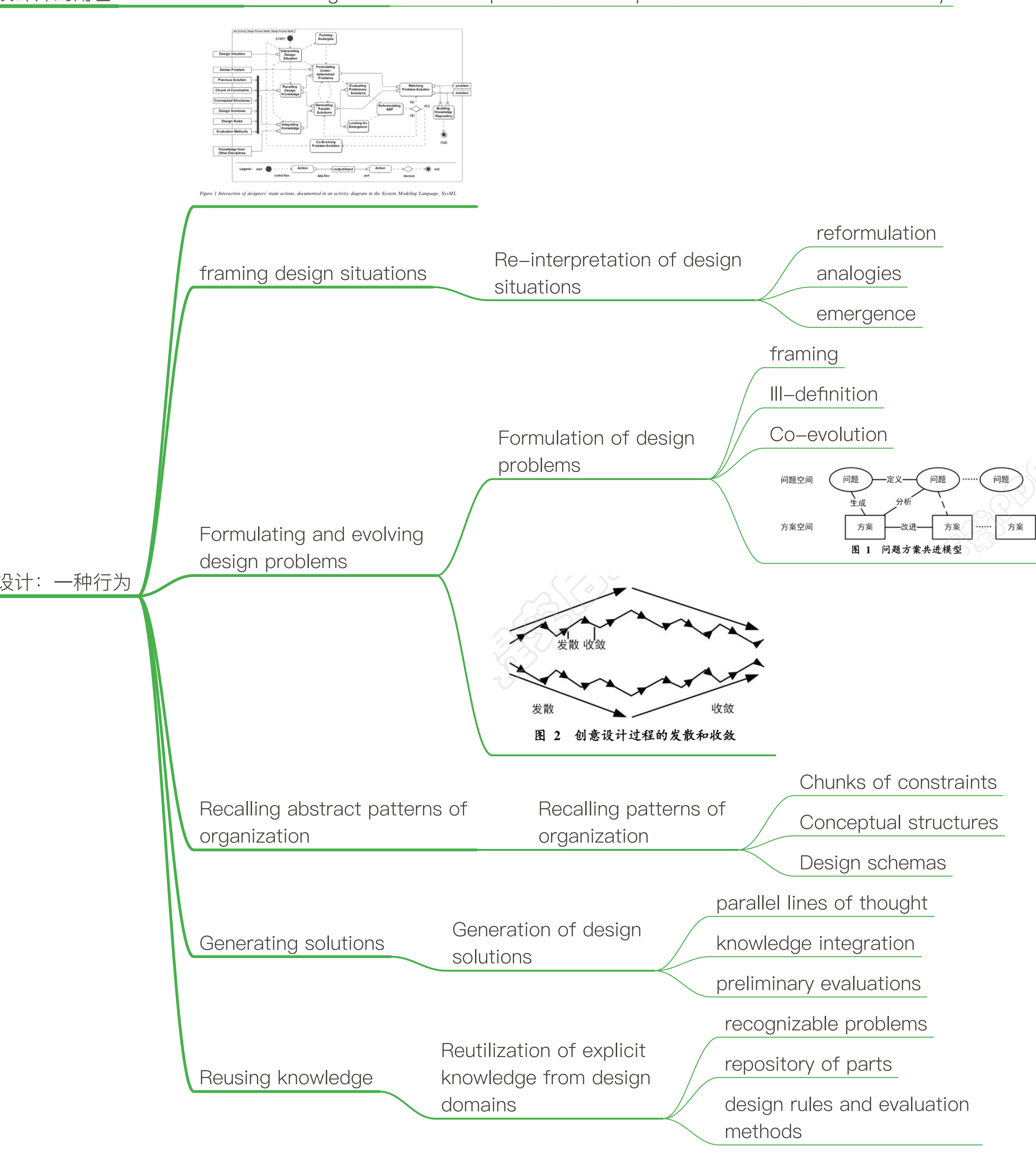


图 2 创意设计过程的发展和收敛

图 1 问题求解模型

正文部分

- 计算机方案
  - 2.1 Generation
  - 2.2 Evaluation
  - 2.3 Selection
  - 2.4 Integration

关系 (支持方式)

- 总图
- 3.1 Human-based actions
- 3.2 Computer-aided actions
- 3.3 Computer-based actions
- 3.4 Computer-augmented actions

结论

- 4.1 Tacit qualitative knowledge beyond manipulation of explicit knowledge
- 4.2 Migration from design-to designer-centric computational tools
- 4.3 Towards integration for augmentation

考点

- 设计研究的三种模式分别是什么? 请举例说明。
- 将“设计师的动作” (Designers' actions) 作为研究对象, 列举并举例说明至少2个典型研究?
- 论文提到的“Computational approaches”有哪些?
- 论文提到的“computational approaches that support design actions”有哪些?