

# Research Field of Augmented Reality and Robotics

## 1 | Approaches to augmenting reality

Location where augmentation device is positioned:

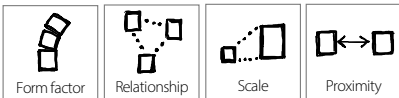
- On-body
- On-environment
- On-robot

Target location of visual augmentation:

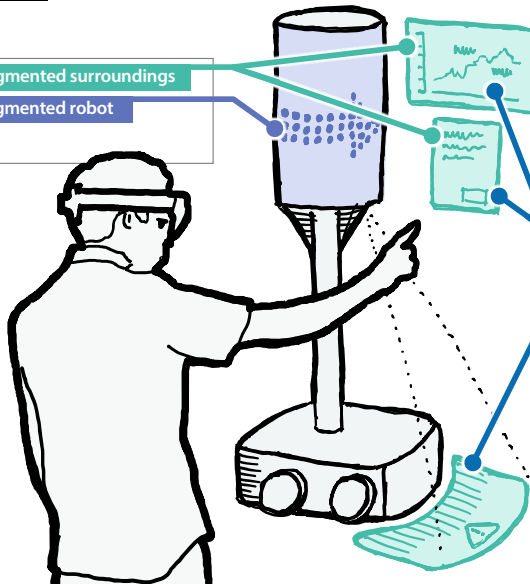
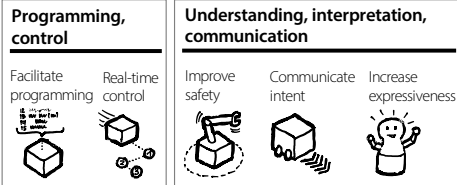
Augmented surroundings

Augmented robot

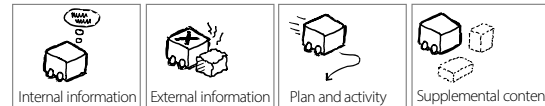
## 2 | Characteristics of augmented robots



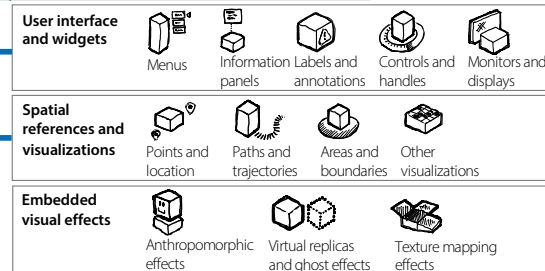
## 3 | Purposes and benefits



## 4 | Types of information



## 5 | Design components and strategies



## 6 | Interaction modalities



## 7 | Applications

- **Domestic** and everyday tasks (18)
- **Safety** inspection (8)
- **Entertainment** (21)
- **Data** physicalization (17)
- **Medical** and health (9)
- **Design** and creative tasks (14)
- **Industry** (12)
- **Social** interaction (7)
- **Workspace** and knowledge work (4)
- **Mobility** and transportation (9)
- **Search** and rescue (4)
- **Telepresence** (8)
- **Education** and training (12)

## 8 | Evaluation strategies

**Demonstration** (54), **technical evaluation** (13), and **user studies** (11)

## Opportunities/Challenges

- Technological challenges
- Bridging gap between studies and systems
- Reducing cognitive load
- In-the-wild deployments
- Safety assurance
- Physical vs. virtual design
- New techniques