



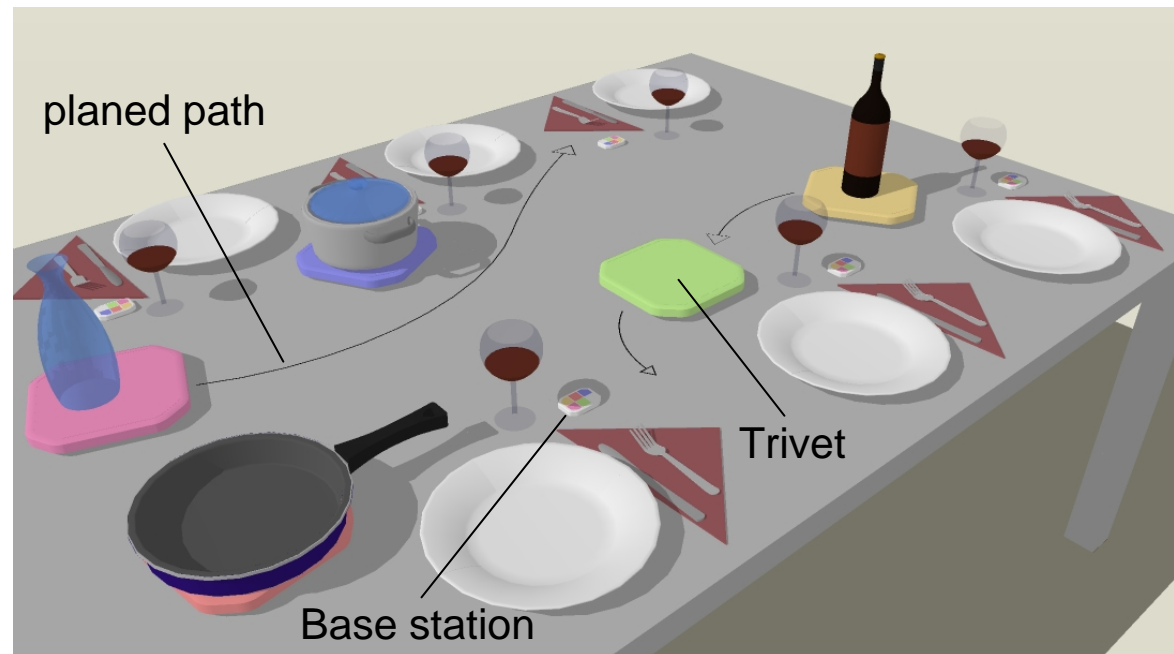
TRIVbots – a robotic trivet system

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A motorized, autonomous and intelligent trivet system for automatic serving of pots, pans, bottles and more what is needed (not only) on a dining table. Especially convenient for large tables (restaurants, bars...)



- Trivets carry stuff around and deliver it to seats where it was demanded
- Trivets can be demanded by users or the need of service is determined by onboard intelligence, eg. by learned eating habits
- Trivet fleet and user input devices (base stations) organize itself: Path planing and relocation of trivets is executed coordinated
- Intuitive user interaction through optical feedback
- Sensor expansions can carry out further tasks (eg. weight sensors for liquid levels)
- Nice ambient generated through synchronized motions and color illumination



- **Technology:**
- **Intelligence:**
- Localization: Triangulation, radio/optical signals, odometry, ground calibration
- Distributed and local algorithms for localization, reorganization, driving, coloring, task selection & execution
- **Trivets:**
- Drive train: Standard motors, gearboxes and motor electronics
- Communication: Optical (IR) or via radio (Bluetooth, etc)
- Localization: Optical (IR distance sensors, same as used for communication), acoustical (ultrasonic); special underground (table cloth) with markers (optical, electrical: eg. inductive)
- User interaction: through lights (LED's), acoustically (beepers), motions
- **Base stations:**
- Basically the same as trivets but without motors.
- Input device (eg. push buttons)
- **Costs:**
- Low quantity fabrication:
 - A pair (two trivets, two base stations) for approx. < 400€