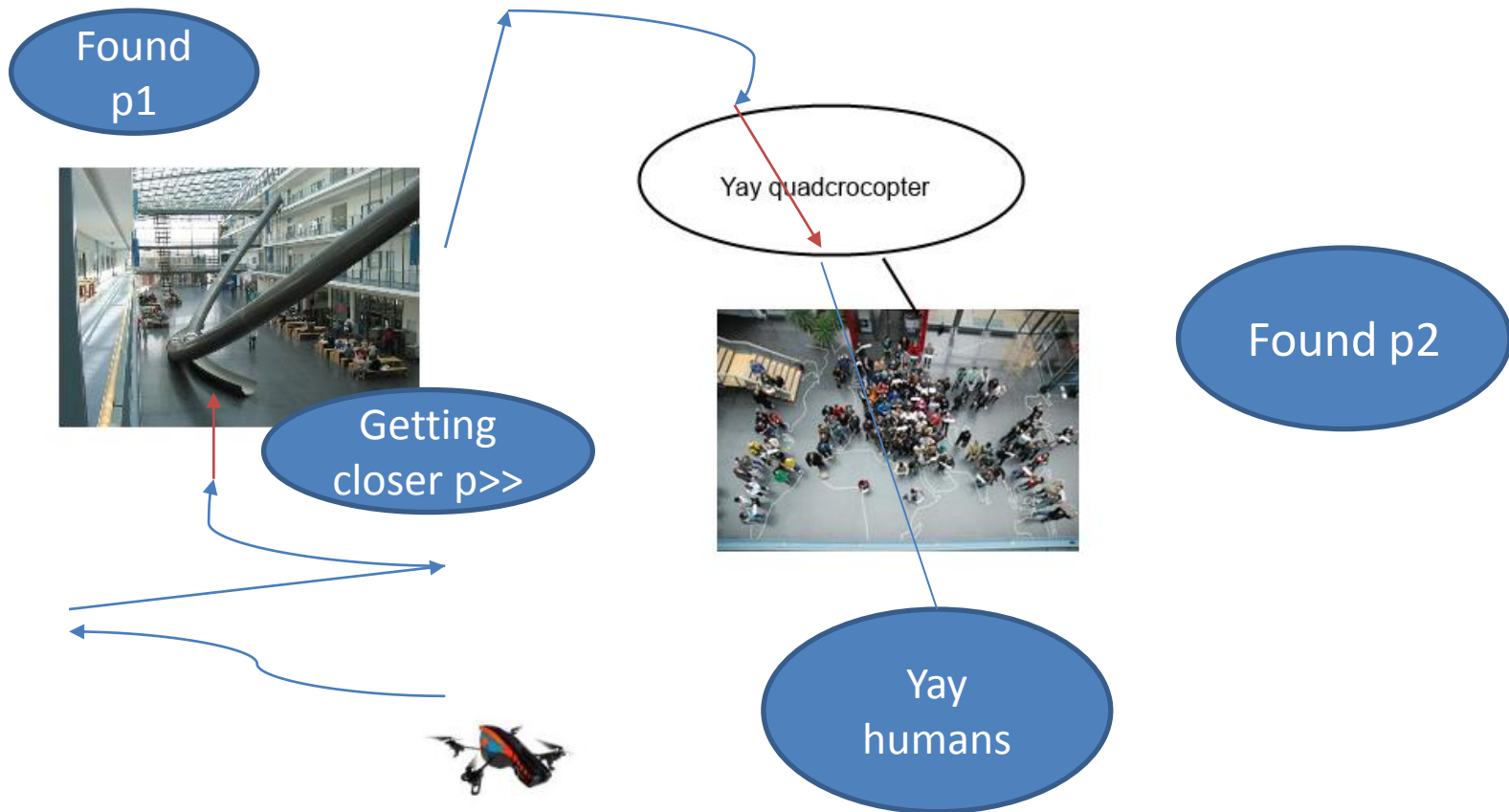




Free navigation of the quadrocopter via visual waypoints

Have I seen this somewhere before

Idea of our approach



Challenges

- Integrating an appearance based SLAM method
- Correctly updating the position estimation
- Safely navigating without crashing the robot (for simplification probably assumption of no obstacles in the way)
- Creating the road-map for the navigation

Approach

- Using an „appearance based slam method“ to recognize a priori known locations
- Bag of Words representation based model
- Starting search with random movement pattern to find a place it recognizes
- Trying to fly to this place
- From this point, trying to fly to the next known point (similar to waypoints)
- Adding new known points on the fly to help orientation

Future

- Using quadcopters for delivery service?
(integrating GPS, additional tracking devices, etc.)
- Navigation in known environments
- Mapping of new environments

Thank You