

# Keygraphs for Sign Detection in Indoor Environments by Mobile Phones

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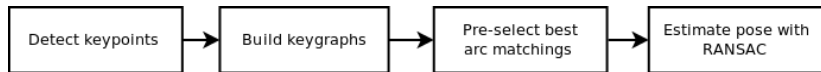
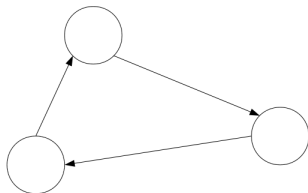
GbR 2011

# Proposal

- Sign detection in indoor environments by cell phones;
- Detection by keygraph matching;
- Localization estimation based on sign properties.

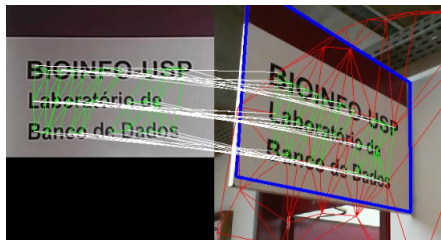
# Keygraphs

- A digraph built over a set of keypoints;
- Descriptors are based on its arcs intensity profiles.



# Keygraphs

- Captures structural information by taking into account a set of points and their relationship;
- Descriptors are robust and easy to compute.



# Localization

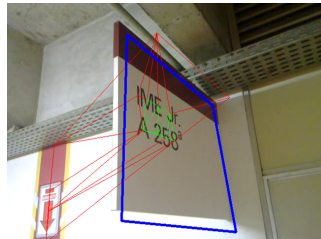
- Based on ratio sign area / image area;
- Estimate position by comparing result with a known dataset;
- Reliable results for our problem, and very efficient.



# Results

## Detection

- Relatively quick for a mobile device;
- Robust to image variations;
- Robust to partial occlusion.



# Results

## Localization

- Results are very accurate;
- Allows localization on real time.

