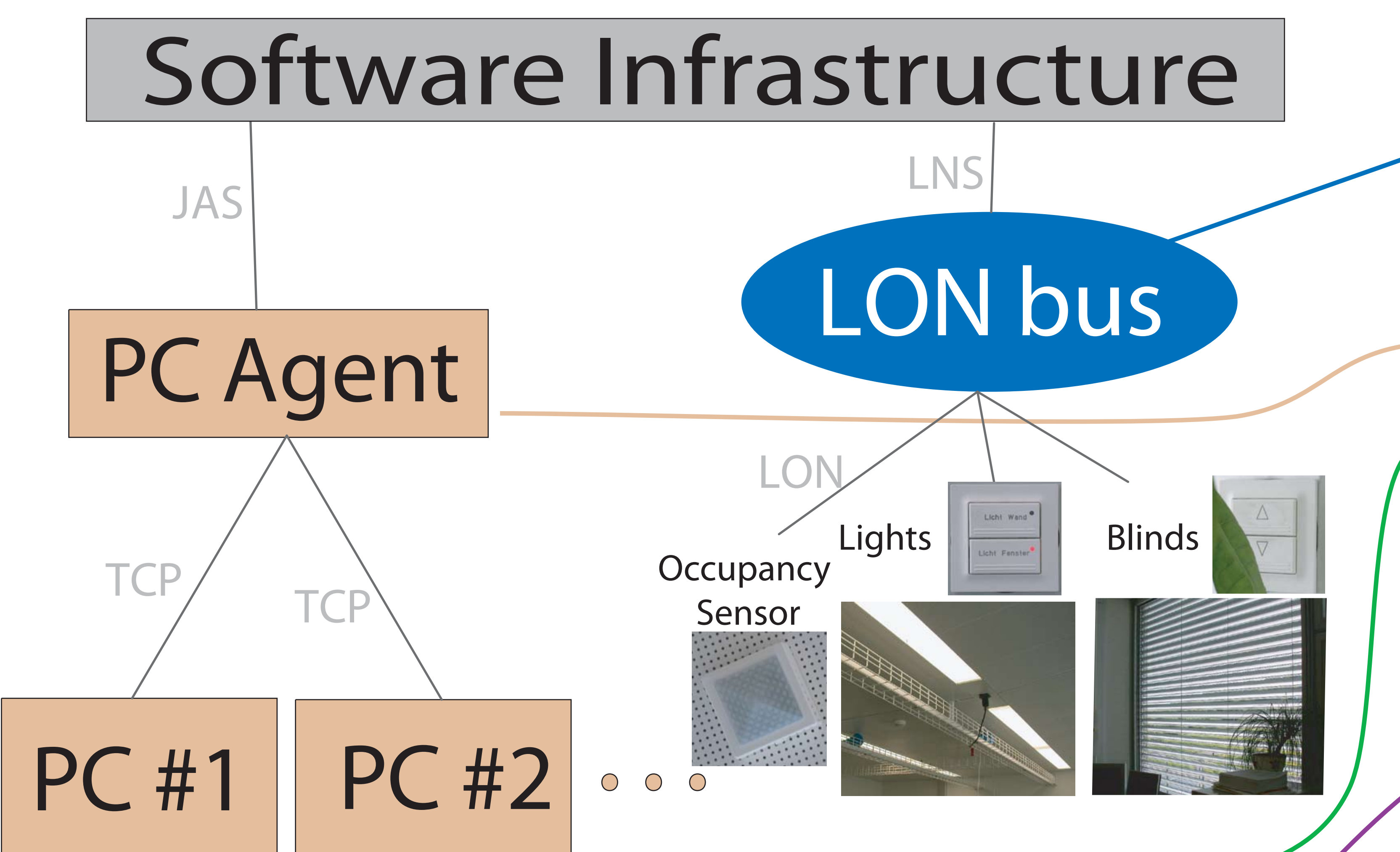


Using personal computers for enhanced presence detection in building automation

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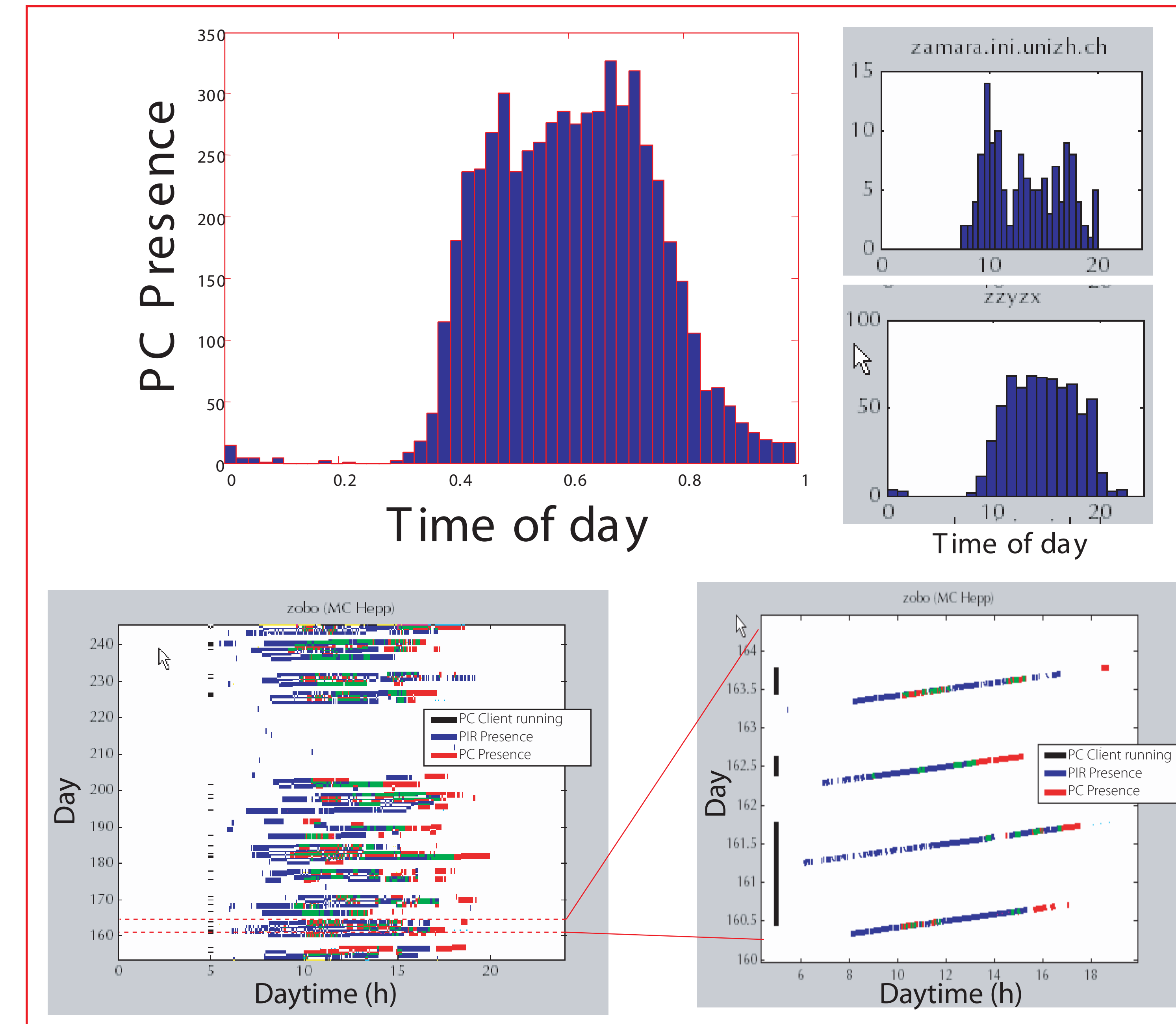
Effective building automation depends on reliable sensors, but the usual passive infrared (PIR) sensors are blind to occupants who do not move around and are not personalized. We improve building intelligence by using occupants' personal computers (PCs) as additional personalized presence sensors.



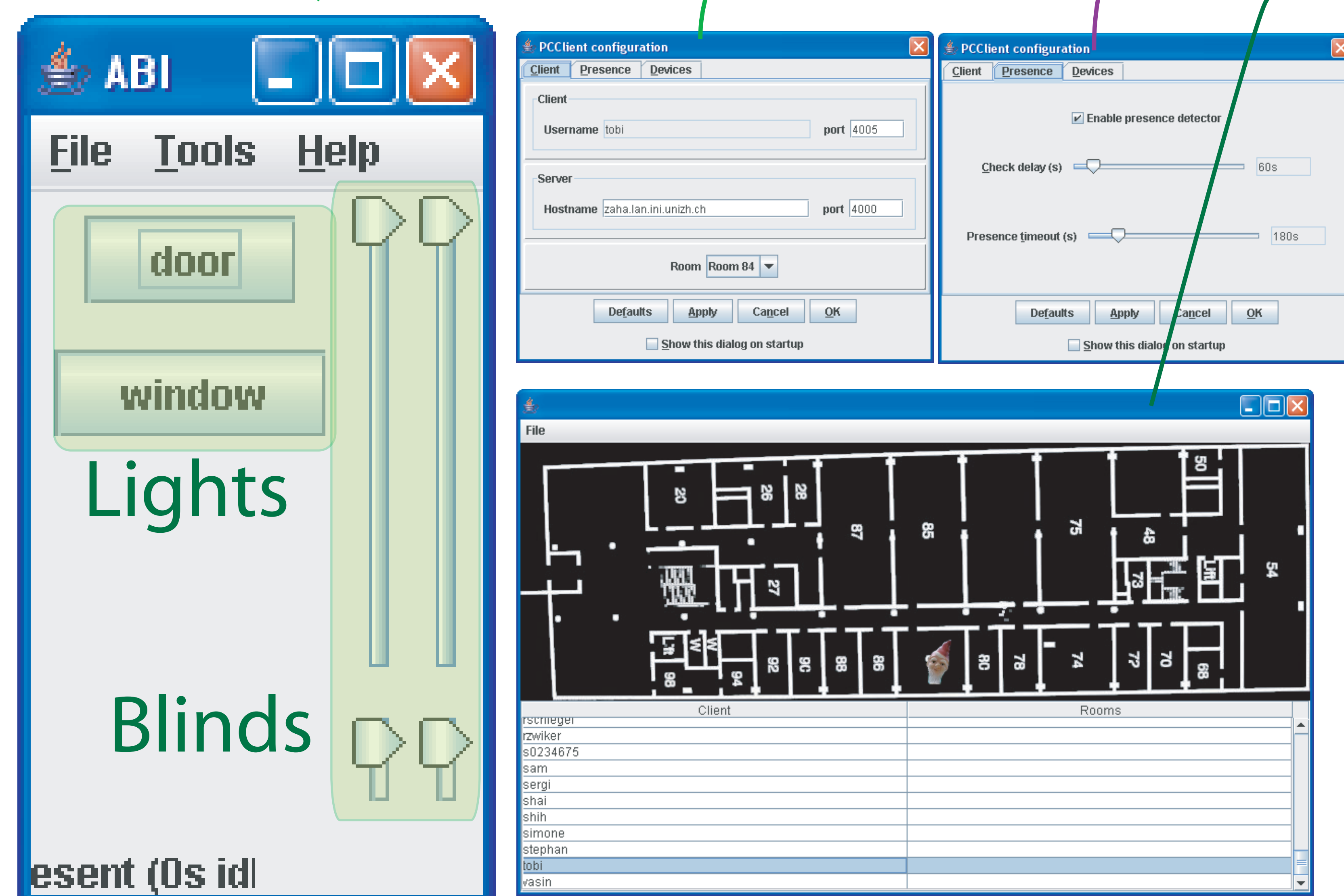
Our building is controlled by a **LON (Echelon Corp.) building automation network**. We developed **PC client/server software** that occupants use to **control their lights and window blinds**.

This platform-independent Java software also acts as **personalized presence detectors** based on keyboard and mouse activity, through native calls to the underlying operating system. **Our PC client software presently has 20 users.**

The **combination of PIR and PC sensors produces a more reliable and personalized measure of occupancy** and enables better intelligent control of devices. Timeouts can be shortened and preferences personalized.



Using personal computers as presence detectors allows occupancy detection to evolve as personal computers evolve, to include sensory input such as audio and video. As computer power increases so will the capabilities of buildings to satisfy their occupants.



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