

# Integrating R in an Advanced Building Control System

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We use the R environment to perform core calculations in an automatic building control system. The system controls electrical lighting and venetian blinds in one- or two-person offices and relies on a Bayesian algorithm to evaluate the users' visual comfort. At the centre of this algorithm lies the estimation, after every recorded user action, of the density of certain physical variables before and after the action. These variables are those that are thought to correlate with the subjective impression of visual comfort, and that are relatively easy to model, such as the illuminances at different points in the field of view.

Here we describe the implementation of this algorithm in a high-level language and how that language uses calls to R for the most mathematically difficult steps.