SVSHI formally verifies Python smart buildings apps for KNX devices, and takes care of KNX communications.

**What we have**
- **Post condition** in each app as an arbitrary boolean condition
- **Automatic formal verification** of all post conditions validity with respect to all installed apps
- Support for **time specific conditions** in post conditions
- **Runtime verification** during apps execution
- **KNX simulator** for apps development and testing
- **Discovery service**: shows available devices for a given KNX system, creates apps and offers to test them on the simulator with SVSHI with automatically generated bindings

**What we bring**
- **Higher abstractions** to KNX
- **Easier and quicker** KNX configuration
- **Formal verification** for smart buildings
- **Transferable** apps for smart buildings
- A service to discover SVSHI and develop apps
  - All this for non-engineer users

**What’s next?**
- Discovery service as a **cloud web app**
- **Execution time static analysis** (latency)
- Verification of **physical devices behaviour** at runtime
- Addition of **contracts** encoding physical devices behaviour

Code and whitepaper: https://github.com/dslab-epfl/svshi