ABSTRACT
We introduce AmbientTalk, a dynamic, object-oriented, distributed programming language. AmbientTalk focuses primarily on the domain of mobile peer-to-peer applications, which are becoming more and more widespread in the wake of smartphone platforms such as iOS and Android. AmbientTalk runs on Android, and can be thought of as a scripting language for that platform.

We will discuss AmbientTalk’s roots and devote special attention to its concurrent and distributed language features, which are founded on the actor model. Next, we will showcase the language by explaining a peer-to-peer application. We show how resilient mobile applications can be constructed with familiar building blocks like objects and messages, but also in what way these building blocks have to be adapted to fit the characteristics of mobile networks.

For the past six years, we have been using AmbientTalk as a research and teaching platform at the Software Languages Lab of the University of Brussels. We will close the talk by relating our experiences in designing and using the language.

Categories and Subject Descriptors
D.1.3 [Programming Techniques]: Concurrent Programming; D.2.3 [Software Engineering]: Coding Tools and Techniques—Event-driven programming

General Terms
Design, Languages

Keywords
Event loops, actors, futures, mobile networks, peer-to-peer