

## **Integrating Alexa in a Rule-based Personalization Platform**

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### **Abstract:**

Vocal assistants are becoming widely used, but their potentialities have not yet been completely exploited. For instance, while assistants such as Alexa are increasingly boasting compatibility with a large set of third-party services, the possibility for end-users to personalize the joint behaviour of such connected services (including the voice-based ones) in a flexible manner seem not sufficiently explored yet. In this paper, we present how the voice-based support offered by Alexa has been integrated with a rule-based personalization platform to support the creation of trigger-action rules enhanced with voice-based support. This integration opens up the possibility for users without programming knowledge to specify and include in their rules voice-based triggers and voice-based actions, which can be composed with events and commands that can involve a variety of sensors and connected objects. To this aim, a novel solution has been developed, which also aims at overcoming some limitations that have been found in currently available vocal assistants, e.g., the issue of unsupported languages, thus lowering the barriers for their ultimate adoption and everyday use. Indeed, the integrated platform offers the possibility to play the vocal notifications/ reminders contained in relevant personalization rules in any language, including those not currently supported by Alexa.