

# AAC Services Development: From Usability Requirements to the Reusable Components

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**Abstract.** Intensive development of information and communication technologies can contribute greatly to enhance alternative and augmentative communication for individuals who experience difficulty communicating in an understandable manner. Availability of internet infrastructure and affordability of mobile computer devices provide a sound starting point for planning and building AAC services. In order to make the services more familiar and understandable to users, it is justifiable to build them on top of common service platforms in an adaptive and configurable manner. In this paper we present a component-based AAC service development model that enables building such services by using mandatory AAC components on top of the component framework, and selecting visual or non-visual components from the available component pool. The AAC component selection criteria are based on matching the data and metadata of usability requirements specified with the metadata of available components from the component pool. Registering new components into the reusable component pool extends the pool and helps building the component-based AAC services development platform.

**Keywords:** alternative and augmentative communication, component-based development, usability requirements, component pool, AAC services.

## 1 Introduction

The means of communication in today's interconnected world are more diverse than ever. Continuous growth, availability and affordability of information and communication technologies (ICTs) are considered crucial for bringing more people into information age [1], simultaneously enabling new ways of information exchange and content production, offering new and transformative applications and services [2]. Raising popularity and affordability of mobile computers, like tablets and smartphones, along with the common mobile phones and notebook PCs, provides an access capability for various growing and emerging user groups to different ICT services. Nevertheless, in order for these services to be fully accepted and utilized by the users, along with the proper functionality they have to offer, their priority need is to be usable and trustworthy.

In order to make the services more familiar and understandable to users, it is justifiable to build them in an adaptive and configurable manner, therefore relying on software reuse.