Playing with SID

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Playing is the earliest form of examination of the world by interaction. The play of children of different ages shows how their understanding of objects changes and advances. For example the play pattern of emptying a container always precedes the one of building a tower, which both come after the examination of objects weight, surfaces and materials. Interactive play is the empirical method to build a model of the world for later being able to make predictions of *What would happen if I put the biggest block on top of this already rocking tower in front of me?*.

Playing does not stop when grown up. Making adults to play is in some sense more difficult, since they have been playing for a long time and most things in their environment are very predictable. So, it is uninteresting to see what happens if I let a spoon fall down. For a 1 year-old this is a most amazing process with surprising visual and acoustical feedback, that eventually leads to the model "spoons always fall downwards". Later after further examination of gravity this model adapts to "all things fall downwards", until the kid gets a helium filled balloon, which becomes then a very intresting object to play with.

SID can make the world of objects more interesting by advancing the objects features with acoustical means and make us play again. The proposition of the talk is: Since playing is interesting when things are not predictable in the first place, but after extensive play, the sound should adapt to the subject in a way that is a bit too complex for the player's age or experience. Completely random feedback would be always too complex, but is not helpful, as we can see in children too: If they can't figure things out, they get frustrated or bored.

This idea is already followed by more and more interactive computer games. The computer can generate a lot of different feedbacks and can as well take many forms of human movements as input. Putting the electronics into the objects lets us forget more and more the presence of the technology and finally we go towards the *what would happen if ...* state of real play.

We had been working withing the CLOSED project on cencepts for adaptable algorithms which can be examples to explore this idea: 1. Preference based-learning: human preferences guide a design process and 2. Active Learning: learning of a descision boundary in a rolling sound generator, which can be presented shortly to start a discussion.