Turkish Sign Language Translation for Mobile Phones

Description

Sign languages, like the spoken languages, emerge and evolve naturally within hearing-impaired communities. Within each country or region, wherever hearing-impaired communities exist, sign languages develop, independently from the spoken language of the region. Each sign language has its own grammar and rules, with a common property that they are all visually perceived [1].

Hearing-impaired people constitute approximately 70 million worldwide and around 253 thousand in Turkey [2]. With the advent of smart mobile phones equipped with powerful processing power similar somehow to personal computers capabilities, many people in the deaf community use these devices for basic communication matters such as sending text messages and e-mails. However, these small and powerful devices can be further utilized to function as a portable translation machines [3].

The **aim of this project** is to implement a mobile animation system that translates Turkish text into unified Turkish Sign Language. First, Turkish alphabet and numbers will be converted into signs according to Turkish Sign Language Word List [4]. Then, sign language sentences will be built with the H-Animator system [5]. H-Animator is a visual tool modeling X3D [6] (open standards file format and run-time architecture to represent and communicate 3D scenes and objects using XML) animations for H-Anim [7] (an abstract representation for modeling three dimensional human figures) humanoids. Finally, H-Anim humanoid that performs sign language will be rendered on the mobile phone.

Figure 1 shows an example humanoid performing Chinese Sign Language [8].

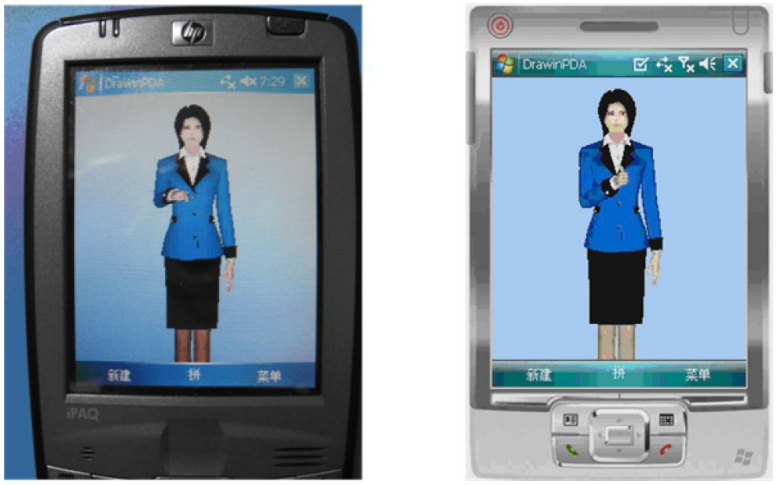

Figure 1: Humanoid performing Chinese Sign Language on HP iPAQ hx2490b PDA(left) and Windows Mobile 6 emulator(right) [8].

References

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[5] H-Animator, http://hcilab.uniud.it/h-animator/

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