Bringing In-situ Social Awareness to Mobile Systems: Conversational Turn Monitoring and its Applications

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1. INTRODUCTION

Does our smartphone help at a variety of social gatherings in our everyday life, for instance, having dinner with family and meeting friends? For a few recent years, smartphones have been rapidly penetrating to our everyday lives. Yet, it is still at an early dawn that the smartphone applications and systems are closely immersed into everyday social activities. We share so many moments and activities with other people right here, right in front of us, and so will smartphones. We argue that, many, in-situ co-presenting smartphones serve as a newly emerging substrate to accommodate whole new in-situ social applications. These applications have huge opportunity in every facet in our daily lives, e.g., providing new user experiences or facilitating social interactions during shared social activities. They could also take advantage of the larger, more capable union of computing devices and resources.

In this demo, we introduce a novel initiative toward everyday face-to-face interaction monitoring system. Among diverse verbal, aural, visual cues expressed during face-to-face interaction, we first focus on capturing diverse *meta-linguistic* information from conversations and providing it for *interaction-aware applications* on-the-fly. Undoubtedly, conversations are a key channel for face-to-face interaction. Specifically, monitoring conversational turns, i.e., alternation of different speakers (including none speaking), is the first crucial step to derive diverse interesting aspects of conversations, e.g., who is talking right now, how long and often one talks, how quickly one responds to another, and so on. More interestingly, various social indicators can be derived further, such as one's leadership and role in a conversation, problematic situations in a discussion [2].

2. DEMONSTRATION

To premier, we show its core operations, i.e., monitoring the turns in everyday settings of multi-personal conversations. We also demonstrate a useful example application harnessing the conversation turns to stimulate vibrant talk in everyday casual chat situations.

Basic operations: We first visualize in-situ turn-taking patterns by plotting a timeline of colored bars as shown in

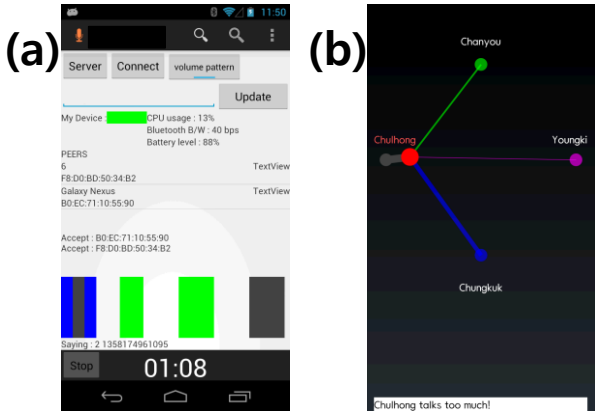

Figure 1 Screenshots of applications

Figure 1 (a); each color indicates the speaker and the length does the duration of the turn. We also show the resource usage for turn monitoring in terms of CPU, battery, and network bandwidth.

Example application: Based on the system, we then show an application that provides visual feedback of on-going conversation (See Figure 1 (b)); it is inspired by Meeting Mediator [1]. In this application, the red circle in the center of the screen moves toward a speaker who is currently talking, proportionally to the amount of her speaking. It also gives a reminder to one who is dominating the conversation by showing a pop-up message and vibrating her device.

3. ACKNOWLEDGEMENT

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4. REFERENCES

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