Viral Entertainment as a Vehicle for Disseminating Speech-Based Services to Low-Literate Users

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Introduction

Entertainment has recently been shown to be a powerful motivator for mastering new technologies. We therefore set out to use viral entertainment to introduce telephone-based, speech-based services to low-literate people in developing countries. We describe Polly, a simple voice manipulation and forwarding system that went viral in Pakistan last year. Seeded once by 32 low-skilled office workers in a Pakistani university, in 3 weeks Polly amassed 2,032 users and 10,629 interactions. From analyzing the traffic and its content, it is evident that Polly has been used extensively for entertainment and social contact, but it has also been put to an unintended use as a voicemail and group messaging facility. This demonstrated the potential for speech based services, and the pent-up demand for entertainment, among our target population. Also of note, Polly’s viral spread crossed gender and age boundaries and even established itself in a female population. However, it appears to have not crossed socioeconomic boundaries.

Voice Manipulations

- An *I-have-to-run-to-the-bathroom* effect, achieved by a gradual increase of the pitch,
- A *drunk chipmunk* effect, achieved with pitch and pace modification,
- Converting the voice to a *whisper*, achieved by replacing the excitation source of user’s voice with noise
- Adding background music.
- The original, unmodified voice of the user

Analysis

- **Number of users seeded with**: 32
- **Total number of days online**: 21
- **Total number of users**: 2,032
- **Total number of interactions**: 10,629

![Analysis](image)

Types of Messages and Feedbacks

<table>
<thead>
<tr>
<th>Feedback Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface/functionality related feedback and complaints</td>
<td>46%</td>
</tr>
<tr>
<td>Too long turn-around time of message delivery</td>
<td>4%</td>
</tr>
<tr>
<td>Poor call/sound quality</td>
<td>7%</td>
</tr>
<tr>
<td>Busy network</td>
<td>49%</td>
</tr>
<tr>
<td>Too short message length</td>
<td>5%</td>
</tr>
<tr>
<td>Too long turn-around time of message delivery</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Future work

Polly is being re-launched with updates as per user feedback & has a new job related application for the low literate.

We are grateful to USAID, the Fulbright program and the United States Educational Foundation in Pakistan for partially funding this work