# Emote, a new way of creating animated messages for web enabled devices

**V. Helzle, S. Spielmann, N. Zweiling**

Institute of Animation, Filmakademie Baden-Wuerttemberg, research@filmakademie.de

**Abstract**

*We present is a new way of creating superior animated messages for mobile devices. Using text and emoticons an individual animated short message can be created and shared with friends worldwide.*

**Keywords:** Messaging Service, Cloud Computing, Realtime Rendering, Animation, Virtual Characters.

## 1 Introduction

Emote[1] is a web based messaging service. Instead of delivering plain text messages, it synthesizes the information using text-to-speech technology. Combined with believable facial animation of a virtual character, this system offers a more immersive internet communication. Our service helps to overcome the exclusion of emotion in modern electronic messaging applications while fulfilling two current web communication needs: anonymity and personalized avatars. Emote enables anyone to create facial animations on the fly, without requiring skills in specialized animation software. The messages are generated faster than real-time using modern graphics hardware on a dedicated server platform.
Our application is suited for any web-enabled device. The workflow is very simple, create your message on our site and send the link to the video via Email or Facebook.

## 2 Processing Pipeline

Viseme information is extracted from the text and used to generate lip-synch animation for a custom character. Additionally, the user can trigger basic emotions and short animation clips. The user then receives a short clip which contains the combined audio/video mix. The basis for the processing pipeline is our in-house application framework Frapper[2]. Frapper provides a node-based scene model with plug-ins for node types, 3D rendering and animation capabilities. The SVOX text to speech library[3] is employed to synthesize speech and extract necessary viseme information. The web front-end is realized using HTML and PHP.

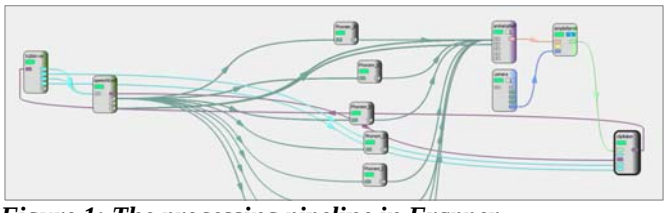

***Figure 1: The processing pipeline in Frapper***

[1] emote.animationsinstitut.de
[2] research.animationsinstitut.de/57.0.html
[3] www.svox.com

## 3 Website

The webpage represents the front-end and the user interface to create messages on the fly, just by typing text and emoticons into a text box. The system generates synthetic speech from plain text. The Emoticons are divided into two categories, basic emotions and additional animations. Where the basic emotions define the emotional state throughout the message, the additional animation options consist of prepared clips, such as winks or smiles, which are blended into the animation. Thus, we provide the user with an easy-to-use and familiar tool with which to create complex animations in combination with synthetic speech. Furthermore it is not necessary to have any experience in animating or digital content creation.

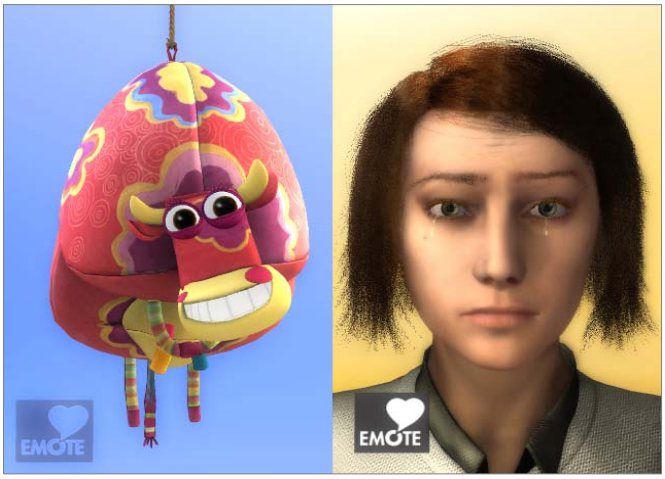


***Figure 2: The both real-time characters***

## 4 Characters

Currently there are two characters available: a stylized cow and a somewhat realistic woman. Because of the degree of abstraction, the cow is animated using more classic techniques like squash and stretch, anticipation, etc. The shading is also kept to a relatively simple level.
The female character strives for a more realistic animation and shading style using modern real-time rendering techniques. For creating the animation, we decided to use the Adaptable Facial Setup[4] as it is particularly suitable to animating realistic characters within a non-linear system. Another benefit of the system is the decomposition and structuring of complex animation into small clips. This is necessary to enable instant, dynamic animation in a real-time environment. So, for example, pre animated emotion- or phoneme clips are stored and triggered in real-time later on.

[4] V. Helzle, C. Biehn, T. Schloemer, and F. Linner. 2004. Adaptable setup for performance driven facial animation. In ACM SIGGRAPH 2004 Sketches. ACM, New York, NY, USA, 54-. DOI=10.1145/1186223.1186291