BITS OF US Project Detail

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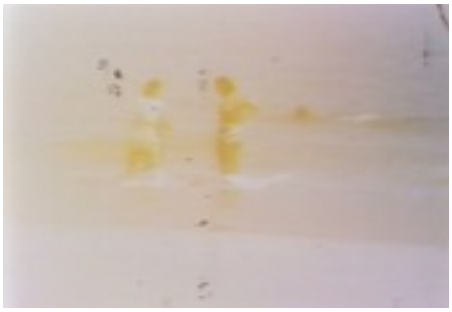
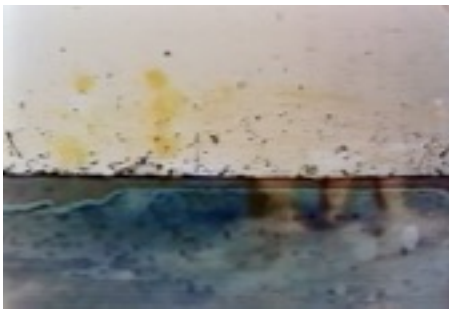
PHASE I

CONCEPT

The recognition of family in photography elicits an affiliative look, the ‘familial gaze,’ through which the image is adopted into the viewer’s own family narrative. Family photography can thus be either idealized or revelatory, or both, as it links private memory to collective history. Real time online collaborative video editing for the game “Bits of Us” allows players to explore an interior experience of self in memory by editing their family film, photography, and hand-drawn images within a video clip of the family film of the artist as the seed for an ever-evolving collective family film with no beginning, middle or end. Participants also upload recordings of their voice and object sounds that are then scored to the film periodically by a collaborating composer. The Bits of Us game is a journey of self-discovery and freedom to experiment. The shape and architecture of game elements will emerge from themes that grow within the film itself, similar to an endless scrabble game of visual associations. This is a unique opportunity for play by individuals in a broad range of demographics, including seniors, not normally targeted for game participation.





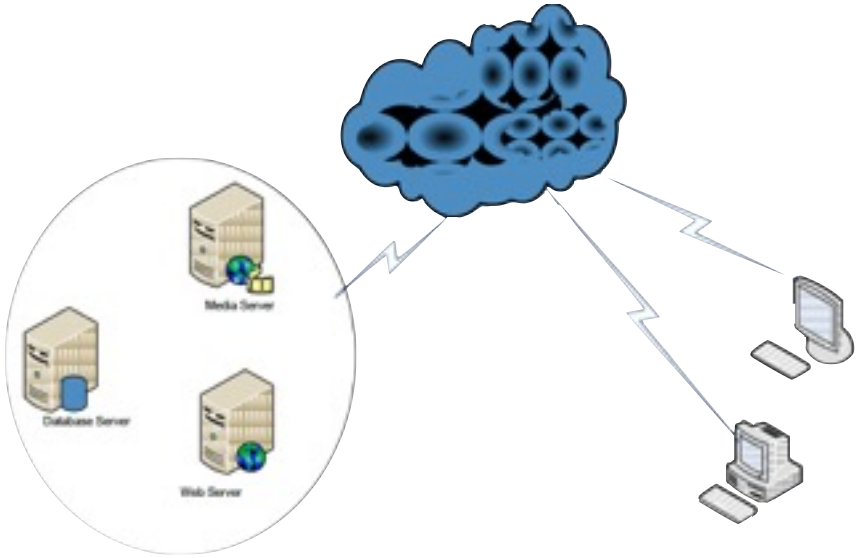
PHASE I

TECHNICAL DEVELOPMENT

In Phase I a seed pilot community of 20-25 individuals of varying age, gender and ethnicity will be generated to experiment with video editing tools sharing family memories online in real-time. Software is developed by collaborating web programmer Derek Harmon to upload all video and audio content to the Bits of Us web space where online video editing tools and tutorials are designed to aid participants editing their family clips into the timeline of previous participants' clips. Targeted for 15 November 2012, the pilot launches pre-loaded with a timeline of the artist's family film to initiate the creative process, and will remain operational through 15 February 2013. Web video software includes tools for frame-by-frame playback of the timeline for in-depth exploration of the film and space for rating and comments about single frames of interest by participants, a selection of which will be processed and printed for Bits of Us exhibition installations in Phase II of the project. The Bits of Us musician enhances the evolving score of audio clips edited to the pilot timeline with musical passages and transitions.

Participants interact within the Bits of Us space using any HTML5-compatible browser. They are able to sign-in securely using a third-party site (such as Facebook or Twitter) to authenticate identity. A major cloud-based media platform (Microsoft Windows Azure Media Services) is used as a service that can reliably scale to accommodate the pilot community as traffic waxes and wanes, without the need for dedicated IT oversight.

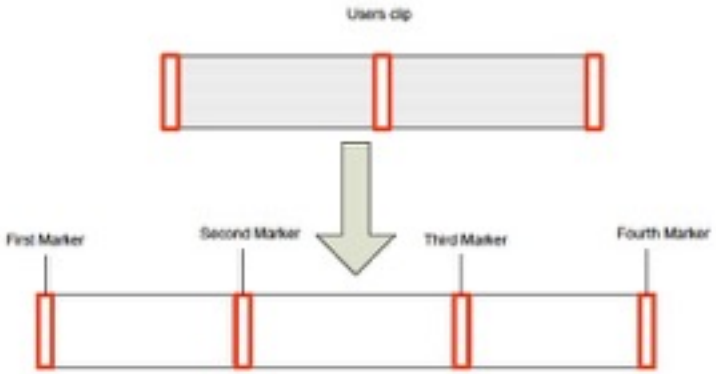
*Web server presents site and provides user interface.
*Media Server: assembles and plays movie files
*Database Server: stores user accounts and movie markers.



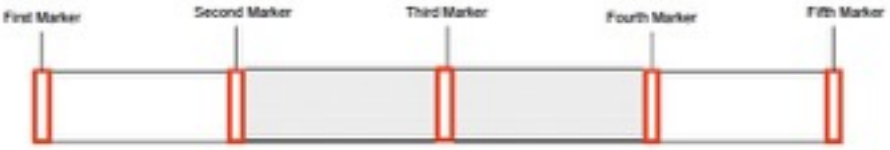
There are screens for upload, “change” (insert edit), and play. Still images and video clips stored in the user’s “lightbox” can be viewed at a slow or single frame rate by dragging (scrubbing) through the images and clips and then dragging selections to desired insert points in the timeline. Mechanisms for conflict resolution will be implemented based on “first-to-edit”, determined by the timestamp of each user’s activity.*See edit and playback algorthims below. A multicast backbone in the cloud will be integrated with a database of media assets and stored in a content distribution network (CDN) to enable visual notification to all online users of live edits occurring in the timeline. Thus the collaborators’ and audience viewers’ experience of the sequence of family film clips is enhanced by the visible emergence of edits arising through real-time collaboration of numerous participants.

Diverse uploaded media formats are supported through transcoding within the cloud. Maximum uploaded file size, idle user timeout, inappropriate content and other configurable options are addressed through an administrative user interface. All public and protected API methods implemented in software design will have descriptions on their use and private API methods will also be documented. Unified Modeling Language (UML) diagrams will be created illustrating key model classes. This documentation is

intended to allow anyone else conversant with JavaScript, jQuery, HTML5, CSS3, C#, ASP.NET MVC, WCF and Azure/AWS to maintain or carry-on future development with web video software created for Bits of Us.
*The movie editing algorithm allows user clips to be inserted in timeline with markers at

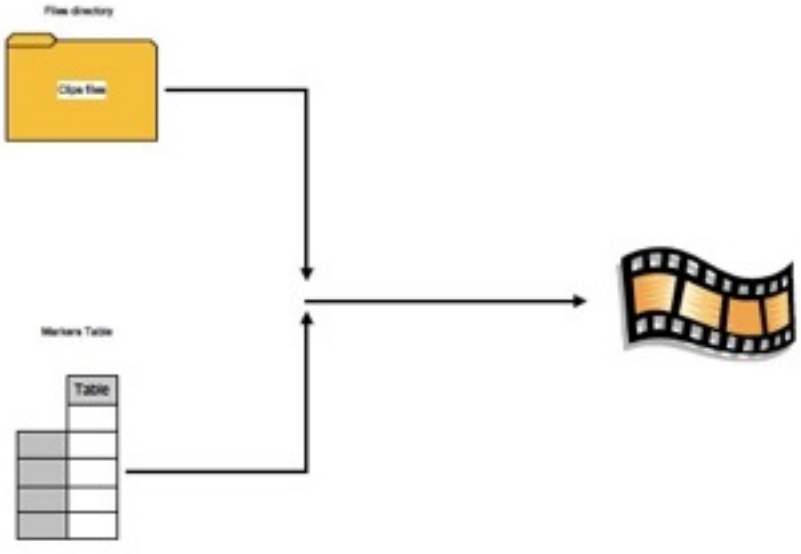


regular

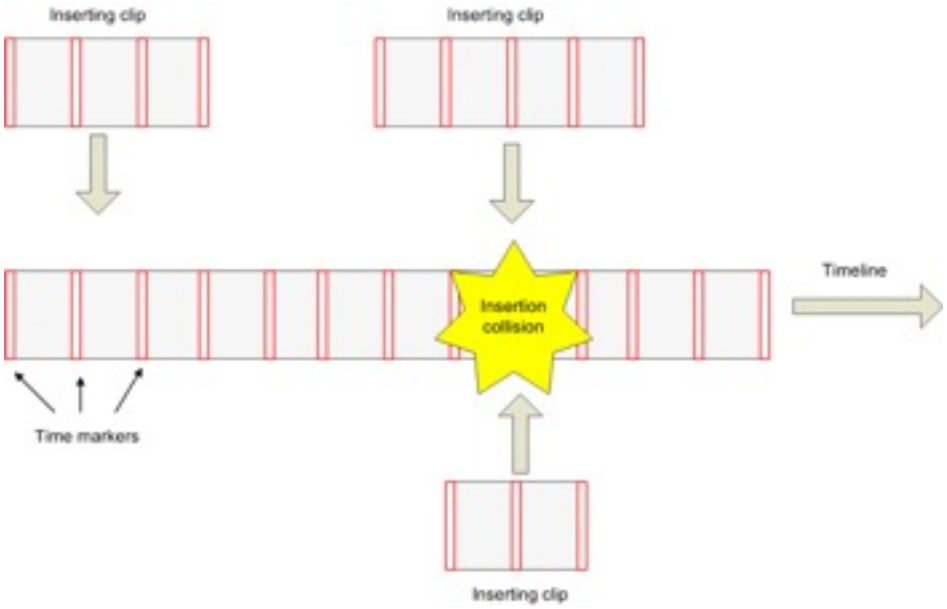


intervals.
The server stores the start and stop markers of the clip inserted by user and reindexes the following markers accordingly.

*The movie algorithm plays clips playing



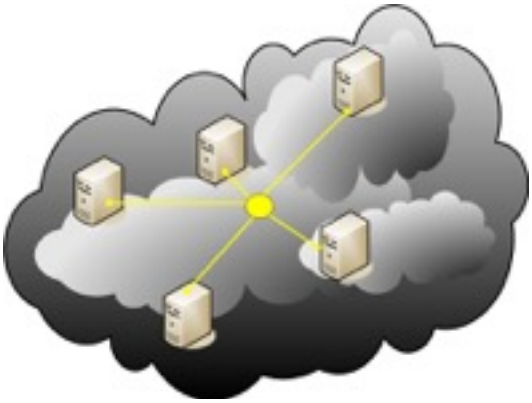
according to each markers index by pooling files from the directory by name linked to the marker number in the database.



PHASE II

An asynchronous system involving multi-channel signal processing (appearing synchronized) will be developed with the real time online collaborative video editing system created for mass participation with the Bits of Us project. In the pilot phase of the project, time delays resulting from two or three users editing their clips at the same insert point in the video timeline are handled with basic code initiating phasing and sequencing of events so as to appear simultaneous. The intersection where 100 or 1,000 actions possibly come together would require functionality similar to a human nerve synapse managed by signals from the brain.

A system of distributed intelligence can be implemented to handle very significant time delays due to heavy user participation and editing collisions in the timeline. Super modules at numerous network addresses can be coded with intelligence to calculate demand for processing time, additional channels, memory, and storage.



Due to the programming complexity of these tasks involving several disciplines, a university or corporate research partner will be sought to develop the technology required for mass interaction with the project in Phase II. Based on pilot participants' observations and comments, additional social gaming elements rewards will be built into the project. An expansive social media campaign will be coordinated and the collective film music score will be extended and embellished with programming to generate random musical phrases from object recorded sounds and voices.

PHASE III

Phase III technology adapts Bits of Us for mobile devices. Project operation assessment and improvement takes place regarding technical efficiency and user interface. Phase III addresses long range planning, ongoing publicity for participation, and technical, administrative, and financial maintenance of the project.