



2008 年度下期未踏 IT 人材発掘・育成事業 採択案件評価書

1. 担当PM

David J. Farber PM (Distinguished Career Professor of Computer Science and Public Policy Carnegie Mellon University)

2. 採択者氏名

チーフクリエイター: アディヤン ムジビヤ (東京大学大学院 学際情報学府・総合分析情報学コース・暦本純一研究室 修士1年)

コクリエイター: なし

3. プロジェクト管理組織

学校法人国際大学 (グローバル・コミュニケーション・センター)

4. 委託金支払額

3,528,000 円

5. テーマ名

Audible Photo : Enhance the Digital Imaging Experience With Embedded Ambient Sound

6. 関連Webサイト

<http://lab.rekimoto.org/members/adiyanmujibiya/>

7. テーマ概要

This project goal is to construct digital images, which have the ambient sound captured and embedded into it using extended Exchangeable Image File Format (EXIF). Furthermore, we plan to develop an application for the iPhone 3G and Android based smart phones. As the result, a new sense of rich emotional experience of digital imaging can be expected.

We also propose audio-scene tagging through the automated audio feature extraction and analysis for scene segmentation and classification. We plan to build web browser plug-in to support the audio playback, and develop a standalone application to support audio-scene based photo grouping, indexing, and slideshows. Photo sharing sites such as Flickr and Picasa already supports EXIF tags. Thus leads to a strong fundamental platform for this project.

Other advancements to the ideas are to embed GPS latitude and longitude (geo-tag), and direction (compass) into the EXIF tags. This will allow a lot more viewing possibilities by overlaying the photos on the Google Map and such.

The ultimate effect of this project is the enhanced photo life experience by providing the ambient sound of photos. It will also open a lot more possibilities in digital imaging field through digital image tagging and ambient audio embedding.

8. 採択理由

While some aspects of this proposal exist in parts in camera and cell phone software, there is no integrated approach that I know of. I believe that a well-implemented integration of view, sound and location could yield a very interesting application that also could become a commercially viable product. It will all depend on the smoothness of the implementation and the care of design. I would target a version to the iPhone in order to gain the maximum exposure.

9. 開発目標

Still pictures are rich with emotional experience, they allow us to recall events and capture the environment, time and place the photograph represents. However, the image alone cannot represent the full impact of the scene, and the goal of the project is to add to the atmosphere and emotional experience of the event by mixing the still image with embedded audio.

The project planned to develop photo-audio capture application for the iPhone 3G and Android based smart phones, This would involve redesigning the application fundamentals, including data structures, application key features, and the digital image's final representation. The project would also develop audio-scene analysis for automated photo tagging and audio-scene tag based photo grouping and indexing. Build a plug-in for web browsers to support embedded audio playback, build a standalone slideshow application with simultaneous audio playback, test the Audible Photo representation on existing platforms (for example Flickr, etc.), and embed more tags, such as GPS, compass data and so on.

10. 進捗概要

The project was completed on schedule and with major goals met. It was complicated due to the rigidity of the information attachments that are provided in iPhoto on a Macintosh environment. However through a series of investigations and nontrivial experimentation, he came up with a reasonable solution that works.

The developer abandoned the goal of porting the capture application to the Android platform. Given the time frame, the developer decided it was better to concentrate on the iPhone application and to develop more important part of the project, the auditory scene analysis.

11. 成果

At the time of completion of the project this software runs under version 2 of the iPhone operating system. In order to be commercially useful it requires upgrade to version 3. While this is not excessively complicated it doesn't

involve obtaining apples software and modifying the code in his application. The developer was also unable to complete a web browser plug-in and slideshow application for audio playback, however, using an ID3 tag approach provided a work-around using existing MP3 player software as the visualization method.

Overall the project achieved its primary goals and should be considered as successful implementation.

12. プロジェクト評価

I found working with the developer to be reasonable and his judgment to be rather good, particularly for a person of his age and experience.

Due to a larger mount of development activities in the iPhone arena, it is likely that a commercial version of this software could have moderate success. With the improvement of the iPhone camera in the new version the quality of pictures is somewhat higher and therefore more useful to the environment he tries to create.

All in all I am satisfied performance in this project but would be dubious in recommending that any work be funded to enhance the results.

13. 今後の課題

To challenge porting the application to the Android system and further develop the application for the iPhone so that it runs on all current and future versions of the iPhone OS..