



**Project no. 045335**

**TRIPOD**

**TRI-Partite multimedia Object Description**

**Final Activity Report**

**Period covered:** 1<sup>st</sup> January 2007 to 31<sup>st</sup> December 2009  
**Start date of project:** 1 January 2007  
**Duration:** 3 years

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**Project Ref. no.:** *IST-FP6-045335*  
**Acronym:** *Tripod*  
**Reporting period:** *01/07- 36/09*  
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# 1 Progress Summary

## 1.1 Project objectives

Project Tripod's primary objective was to achieve a step change for both photographic collections and potentially other multimedia types as well. Therefore, Tripod will:

1. automatically build rich multi-faceted text and semantic descriptions of the landscape and permanent man-made features pictured in a photograph;
2. create image search facilities that serve broader user needs than current keyword or content-based approaches provide;
3. build captions in a range of different languages;
4. automatically update captions, when new information about a location becomes available; and
5. package Tripod's tools as a suite of services to prepare Tripod for exploitation in a wide range of markets

Although a great deal of research and commercial effort was focused on the problems of retrieving photographs either by content-based image analysis or through Web 2.0 approaches to captioning, extensive use of metadata from GPS and compass devices combined with maps and Web resources to automatically caption photographs is an approach (to the best of our knowledge) that has not been exploited in the state of the art. Details of the state of the art can be found in the current version of D8.1.

In the first year of the project, the main aim of the work plan was to:

- involve all partners in WP1, design and kick-off, to ensure that a consensus was built in establishing the consortiums' approach to the project, to this end, all such initiating tasks were placed in a single Workpackage (WP1) so that such interactions were fostered;
- establish use cases and user requirements for the Tripod system;
- establish spatial data requirements for the Tripod project and start gathering sets of images for use in the rest of the workpackages;
- define a system design, in particular establishing the components required and how they will interface with one another and start building and integrating components;
- conduct a state of the art/competitor analysis document and use this in defining plans for dissemination and exploitation; and
- disseminate knowledge of the project through a project web site and publicity and consultation activities.

The end of year one also marks Milestone 1, (see page 7 of the contract's Description of Work). Tripod has achieved its milestones.

In the second year Tripod completed a demonstration of a working system created ahead of schedule:

- Workpackage 3 finished in year 2. This was the part of the project that focused on enhancing photographs with existing captions.
- The components of this package were completed and integrated into the base system described in WP4.
- A preliminary version of the Tripod system was successfully demonstrated at the ICT exhibition in Lyon in November 2008.
- Finally an evaluation of the accuracy of the system was conducted in late 2008, the results of which were positive.

Dissemination was in the agenda for this second year

- The project produced a new look brochure with updated information on progress and updated its web site with the same look.
- It formed a list of potential commercial partners and provided a newsletter to those partners. Information on up-coming events relevant to Tripod partners started to be regularly updated on the web site.
- The project created and released a YouTube video showing one of its technologies.
- The up-shot of this dissemination work has been an invitation to present Tripod at Kodak Research
- Ongoing discussions with a UK-based start-up to test Tripod tools on its photographs.

The final year of the Tripod project saw the successful completion of all of the work packages of the project.

- The image collections built in WP2 were collated ready for use in testing.
- The caption enhancement services of WP3 were finalised.
- The integrated system with its search engine implementing a novel form of diversity ranking (described in WP4) was completed.
- The GPS location version of the Tripod system (WP6) was completed and shown to work in a number of different forms of service.
- The more advanced parts of Tripod: the location summarization and language handling services were completed and tested in WP7.
- A large set of tests of the components of the WP3 and WP6 components and integrated services were tested in WP5.

In previous testing, completed towards the end of year two, it was revealed that the services best use was in semi-automated services, where a human was involved in the final approval of additional texts. Consequently, the testing conducted in year 3 reflected this use of Tripod. After multiple tests, a consistent picture was revealed of a system that was successful in returning keywords that were relevant to a photograph, although in the context of keywords added that were not as useful. However, users of different incarnations of the system were consistent in stating that they wished to see Tripod's services in use.

Dissemination was exercised consistently during the third year with many academic papers being published along with Tripod being publicized at a number of public/professional meetings.

Exploitation opportunities were explored through an analysis of potential the markets and contacts made.

As the project reaches its conclusion, one can reflect on the core premise of Tripod made at the start of 2007 that GPS and compass devices would soon be found integrated into a wide range of photographic devices. Here in early 2010, it can be seen that a number of such devices (mainly smart phones, but also survey and professional cameras) either integrate or support such devices. Tripod's premise was fulfilled and the knowledge gained and services built through Tripod led to substantial, valuable, and relevant advances in the field.