

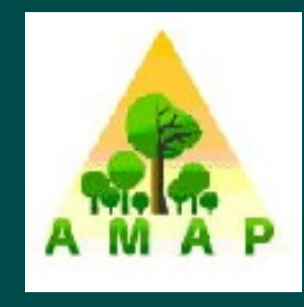
VR Web based tree and vegetation representations for environmental applications and studies. An example on ChongMing Island

Marc Jaeger ^{1,4}

JinYuan Jia ²

Xiaopeng Zhang ³

Sébastien Griffon ¹



- (1) CIRAD-AMAP 34398 Montpellier CEDEX 5, France.
 (2) School of Software Engineering, Tongji University, Shanghai 201804, China
 (3) LIAMA-NLPR, Institute of Automation, CAS, Beijing 100190, China.
 (4) EPI Digiplante, joint team of INRIA Saclay, Ecole Centrale of Paris, CIRAD, France.



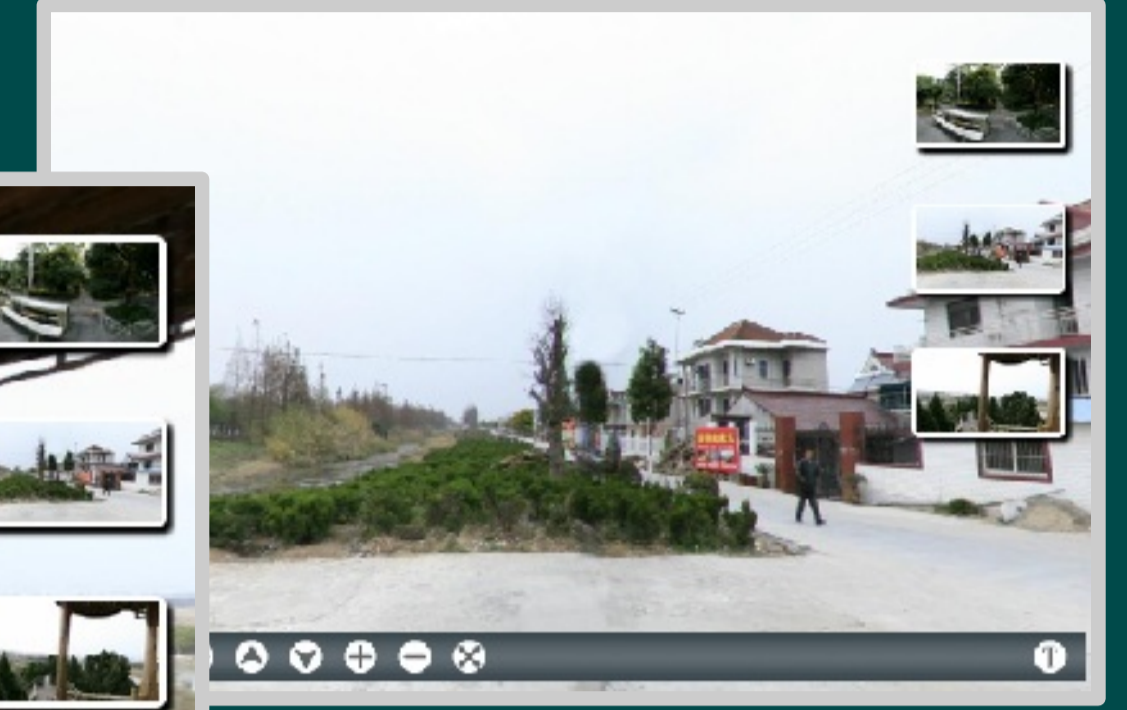
Field views (photos)



Hemispherical images



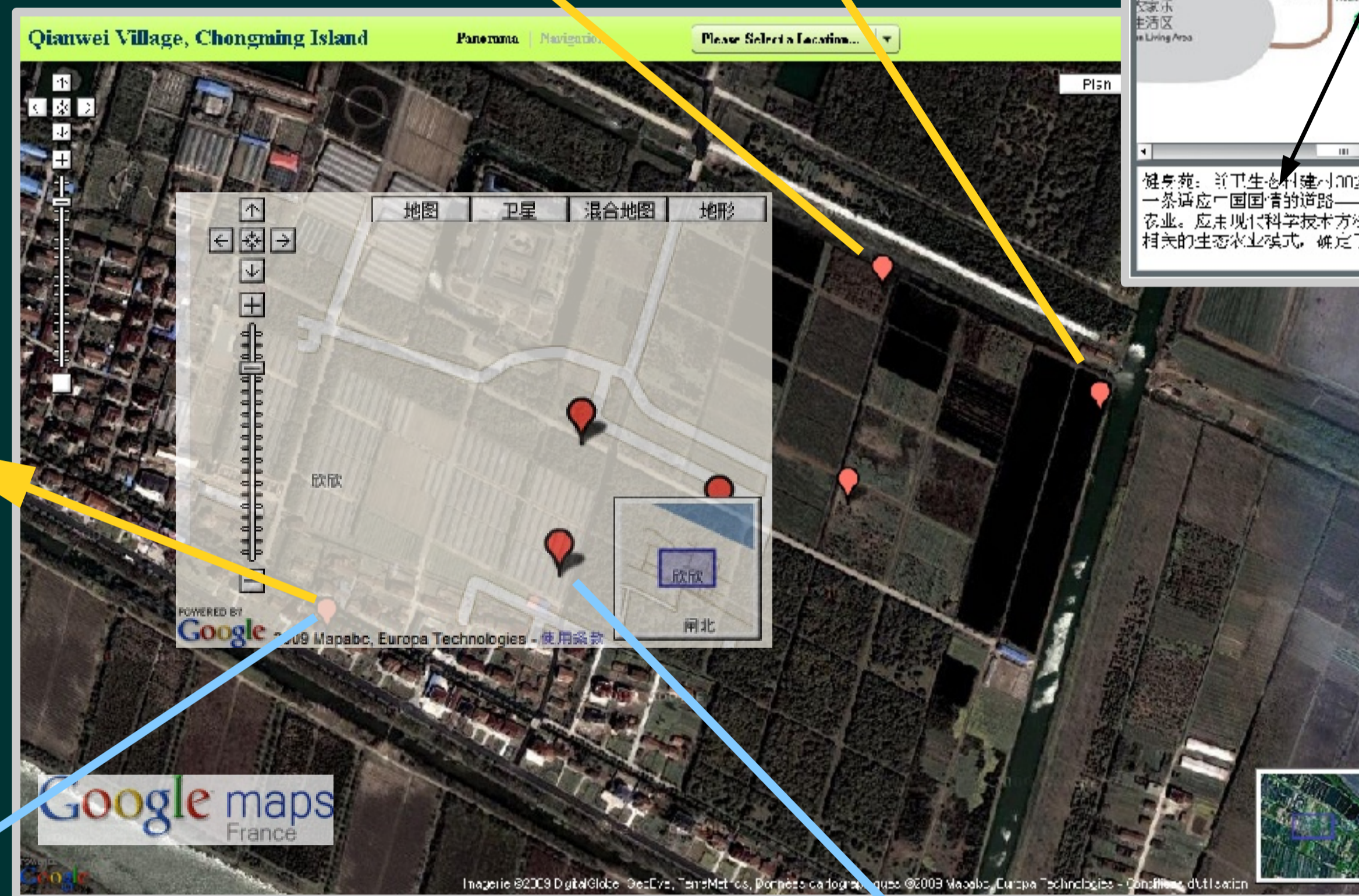
Interactive Web Pano Navigation



Retrieving local information from Web



Navigation within Google Map or Local map



System Overview



Web Interactive 3D scenes (VRML scenes)



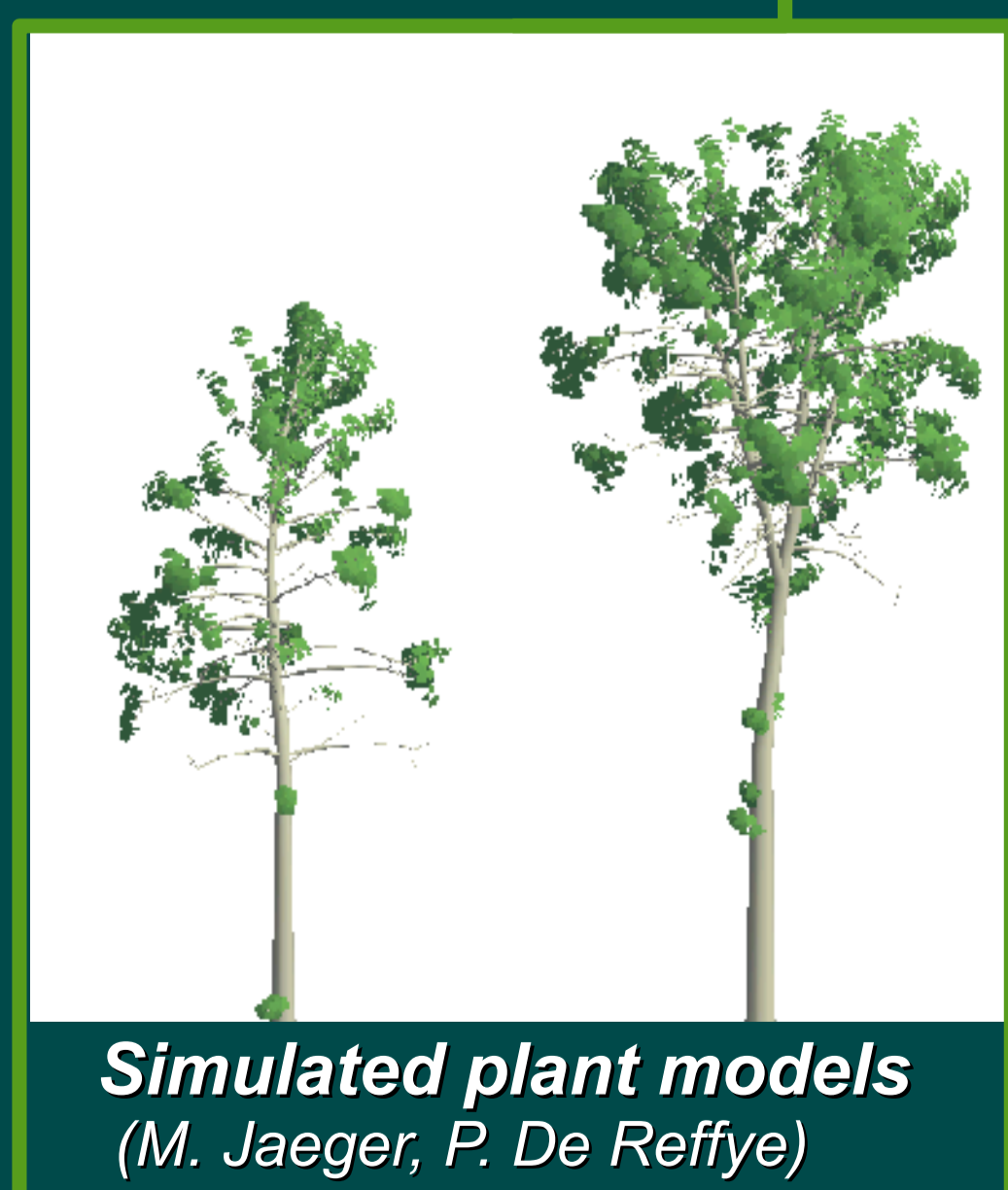
Tree 3D reconstruction from 2 images (Ruoxi Sun et al)



Generating light weighed models from simulated plants (QingQiong Deng et al)

References

- The ChongMing Agropolis-Arcus Project. <http://www.agropolis.org/international/china.html>
- Virtual plants and trees
 Jaeger M, de Reffye P. Basic concepts of computer simulation of plant growth. *Journal of Biosciences* 1992; 17(3): 275-291.
- Plant 3D Reconstruction
 Zhanglin Cheng, et al. Simple reconstruction of tree branches from a single range image. *JCST*, Vol. 22, No. 6, pp. 846-858, 2007.
- Ruoxi Sun et al "Image based lightweight tree modeling", *ACM SIGGRAPH VRCAI*, december 2009.
- Plant LOD Models
 Qingqiong Deng et al. *Multiresolution Foliage for Forest Rendering*, JCAVW, Ed. Tahlman. 2009, 20-1-23, Wiley



Simulated plant models (M. Jaeger, P. De Reffye)



Tree 3D reconstruction laser range points (Cheng et al)



Web technologies
 Panovision: PaperVision3D, <http://pv3d.org/>
 3D scenes using VRML and X3D <http://web3d.org>
 Honjo T et al. *Landscape Visualization on Google Earth*.
 PMA09, 9-12 November 2009, Beijing, China



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