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How can cloud computing environments impact on model-based UI?

A Statement of Interest for the Workshop on Future Standards for Model-
Based User Interfaces

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Background

- Our project aims to develop a method to migrate from a legacy enterprise information system to cloud computing

Our Interests and hypotheses

- Cloud computing environments (PaaS) enables automatic Web UI migration
- Cloud computing environments can help reducing the costs for developing and maintaining multi-target user interfaces

- Recent enterprise Web applications are developed by using application frameworks
- PaaS allows users to develop application by using the frameworks
- Those frameworks follow Model-View-Controller (MVC) architecture
- Many restrictions exist for describing views and controllers in the frameworks, but it seems to be a chance to automatically migrate existing UI to model-based one



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Reducing the costs for developing

- Cloud provide dynamically scalable resources, and now mobile network provides high-speed Internet access
- If there is a Web page rendering engine as a service in the cloud, various Web client can access the rendered image like using VNC
- UI model can focus on how to handle user preferences or device capabilities such as display size, modality of input, sensor readings, etc.
 - No need to consider device storage, processing power, media capabilities

Virtual Smartphone over IP

Allows users to create and remotely control virtual smartphone images in the cloud

- Mobile users can more easily tap into the power of the datacenter
- Corporate can prevent data leakage by containing data within the data center

Feature 1 Virtual smartphone can access sensor readings on a physical smartphone

Feature 2 Relocate apps and data between physical and virtual smartphones

Feature 3 Apps in the cloud can be easily launched directly from the home menu

Eric Y. Chen and Itoh Mitsutaka, "Virtual Smartphone over IP,"
To be appear in IEEE International Symposium on a World of
Wireless, Mobile and Multimedia Networks (WOWMOM
2010), Montreal, Canada, June 2010