

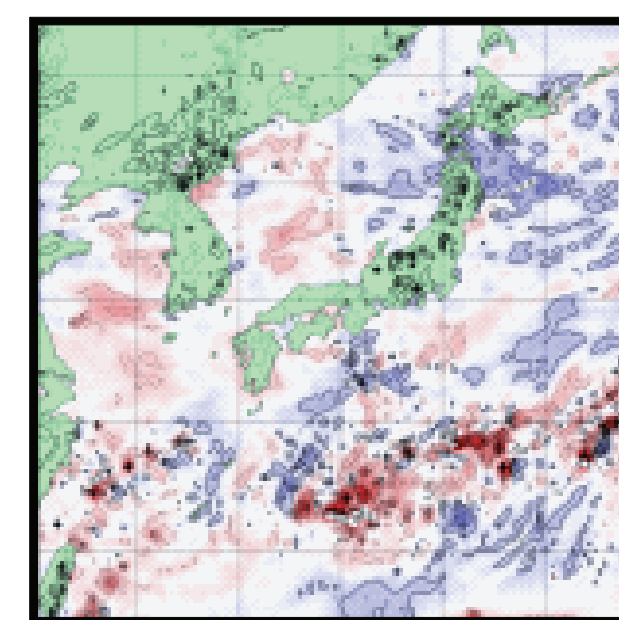


Division of Computational Informatics

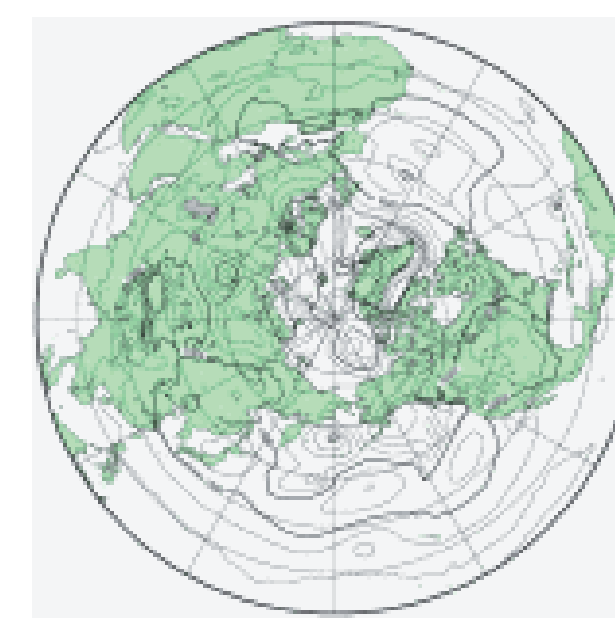
Computational Intelligence / Computational Media

Meteorological DB Archive

Center for Computational Sciences (CCS), University of Tsukuba offers the daily operational weather forecasting data provided by the Japan Meteorological Agency (JMA). The data are called Grid Point Values (GPV). The Archive is maintained for the purpose of scientific development of the weather and climate forecasting technology. All weather maps posted here are the product by the CCS. In the Archive, there are six kinds of JMA/GPV data. More than 170 users register and data size is about 1 TB.



Meso-scale
Non-hydrostatic Model



Global Spectral Model

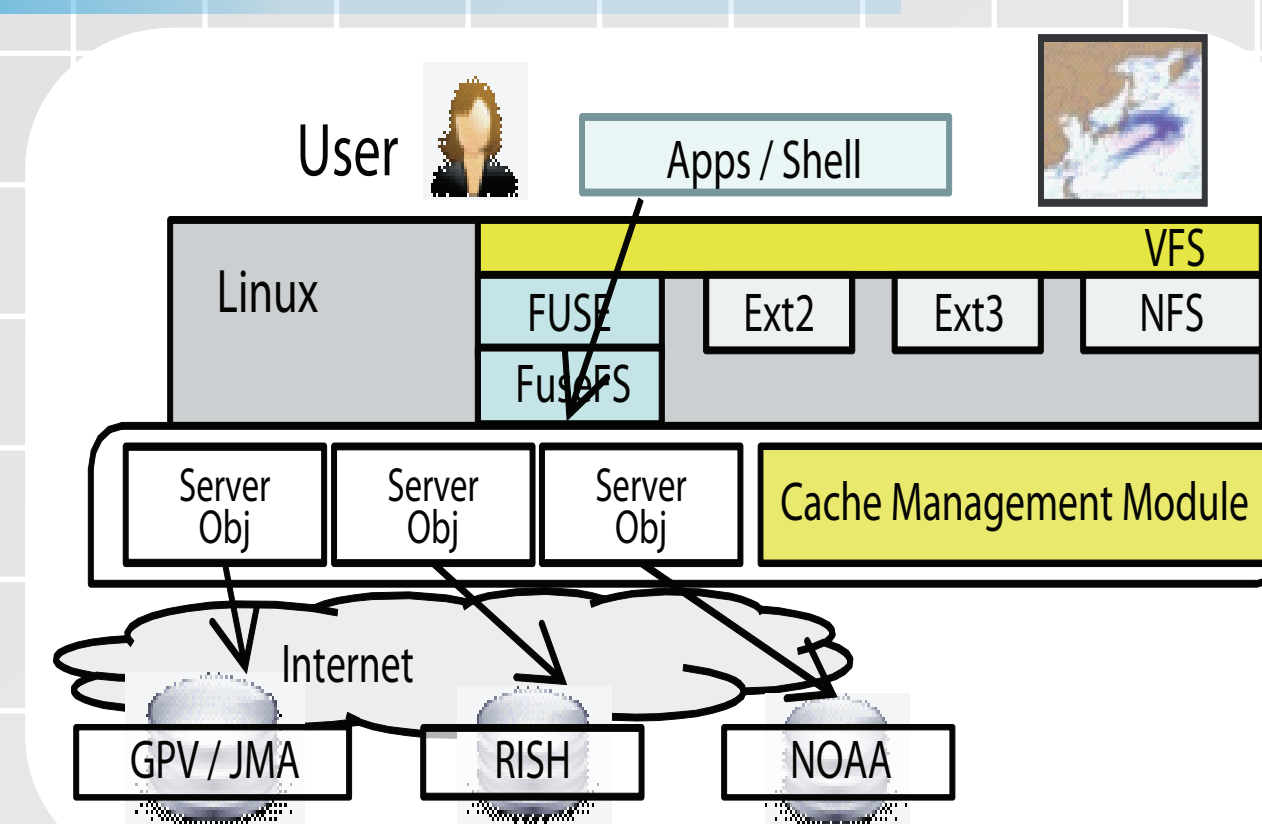
Meteorological Data Integration

Supporting scientists to access online meteorological data

- Using FUSE for allowing users / applications to access online meteorological data as local files.

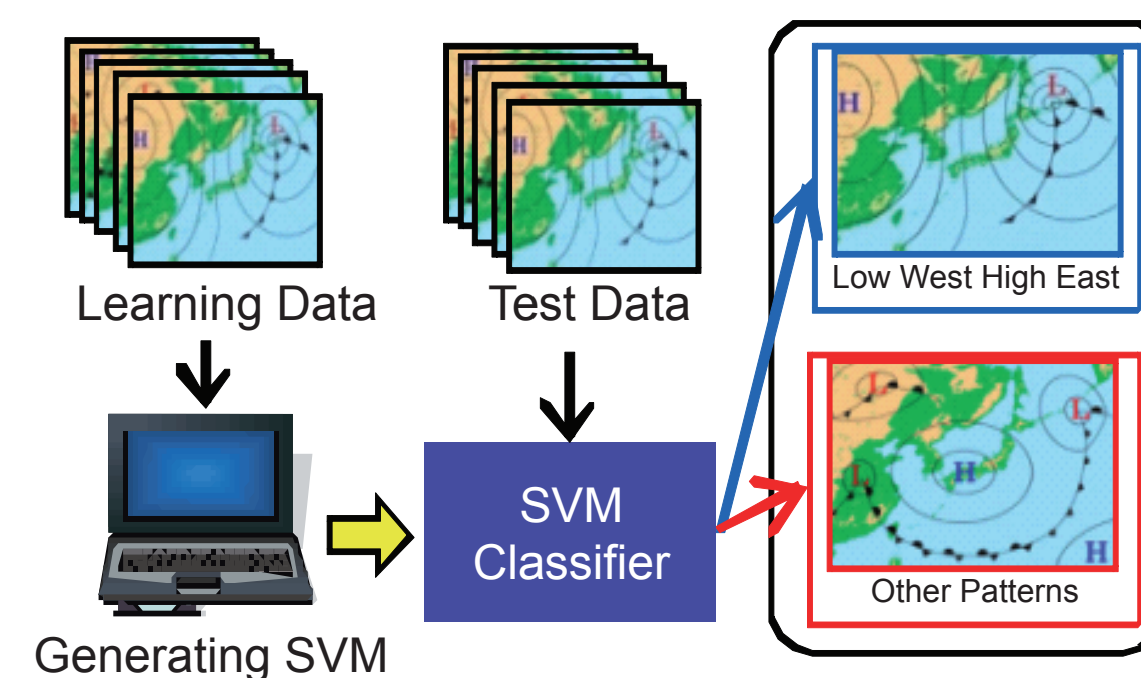
* FUSE: A Linux kernel module for user-level file system.

- Intelligent prefetch and cache management for efficiency.



Automatic Classification of Weather Patterns

Japanese pressure patterns are classified into 15 patterns. When a meteorology researcher needs the data of a specific pressure pattern, for example "low in the west and high in the east", he/she has to see huge data by their own eyes. We have developed an automatic classification system with support vector machine. The result of experiments showed that our method obtained 0.869 F-measure.



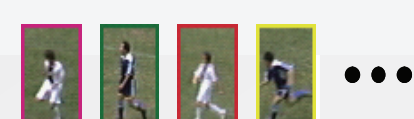
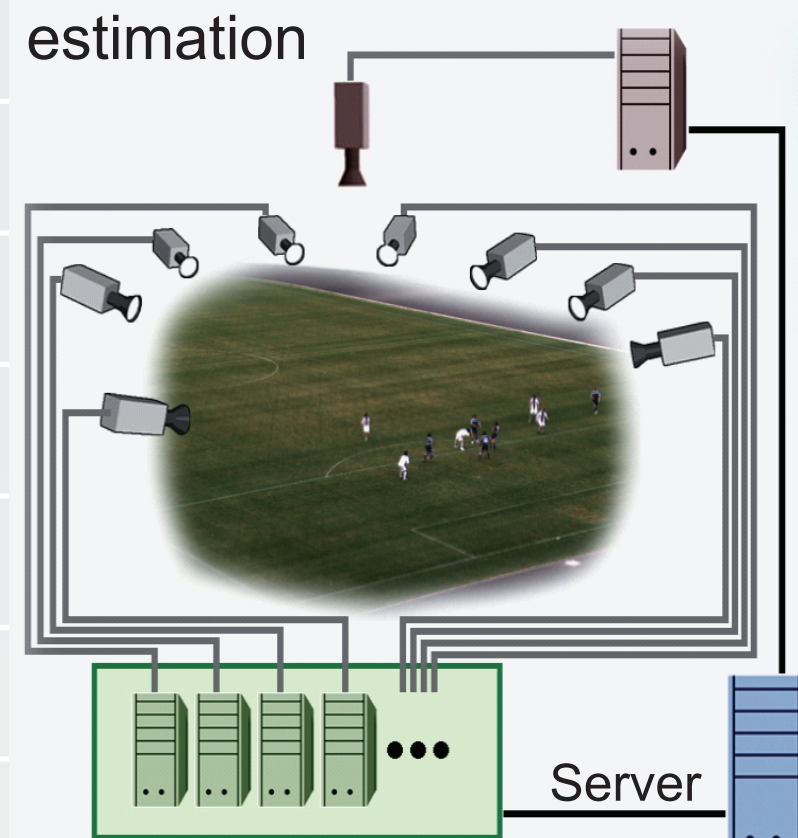
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Free Viewpoint Watching of Live Soccer Games

Multiple viewers over computer network can browse a live soccer game from 3D free viewpoints.

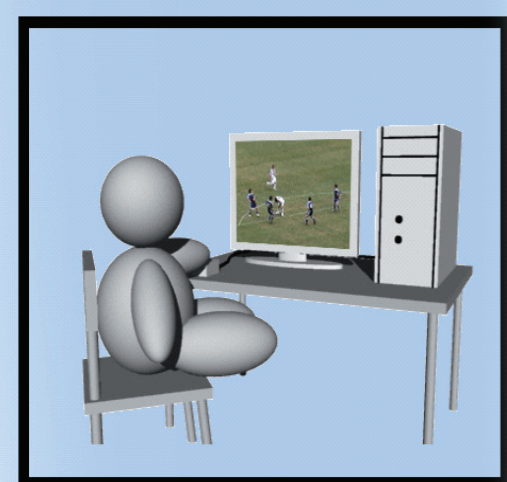


① Player position estimation



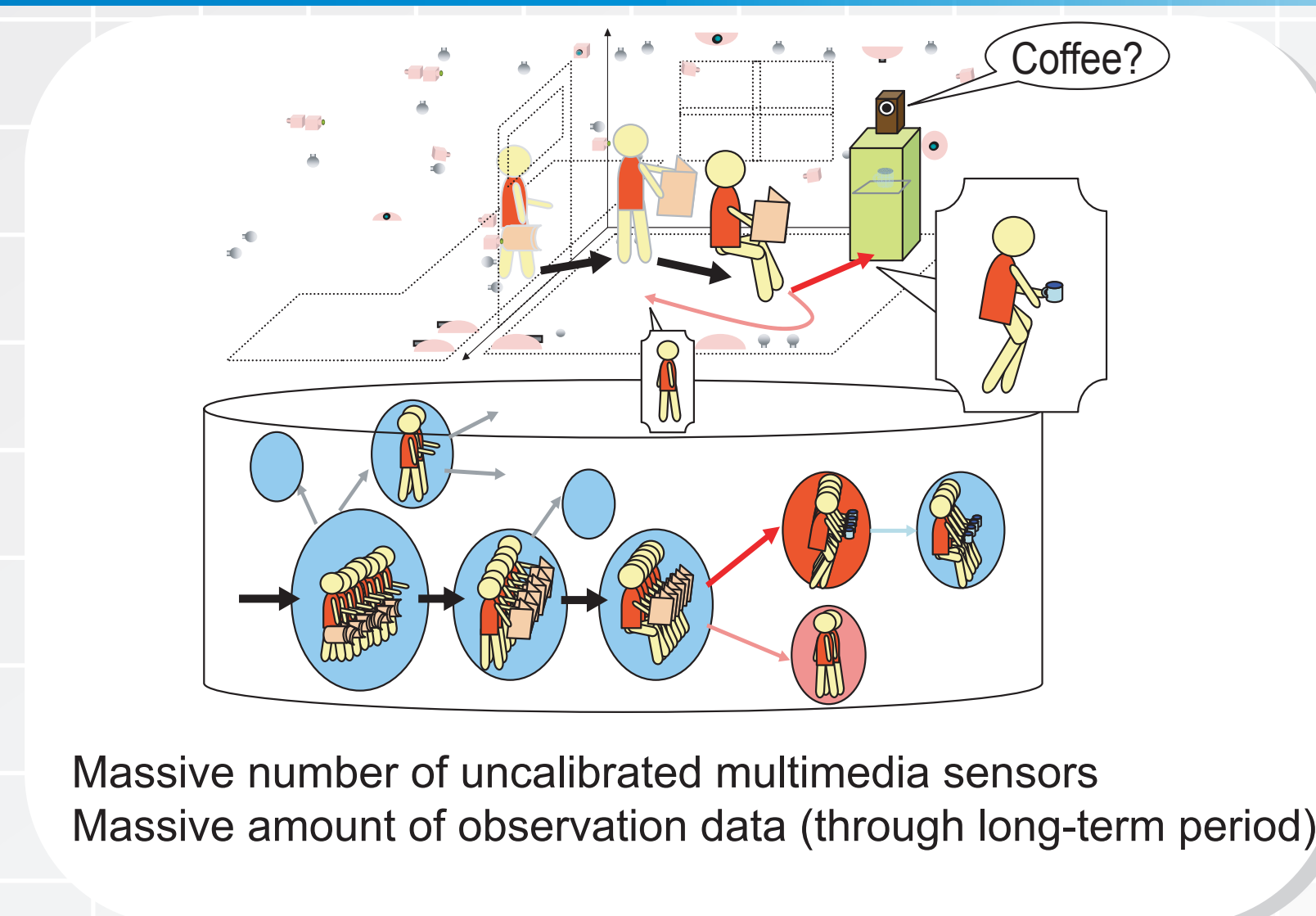
② Simultaneous video capture and image analysis

④ Viewer can fly through the field and enjoy any viewpoints on-line by our 3D live video technique.



Remote audience

③ Virtualized players are stored and forwarded to a 3D virtual stadium at user side.



Massive Sensing

Intelligent video processing and human behavior understanding by networked sensors



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