# Animal Genome Database for Network Users

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**Abstract**

*An animal genome database for network users was developed. Linkage map, cytogenetic map, reference, PCR primer information and homology between species were included in the database. These data can be used by electric mail system and World Wide Web client.*

The body of information about mammalian genomes has been progressively increasing these days. To utilize efficiently such information in the current study, it is prerequisite to construct the genome database. Thus, the human and murine genome databases have been constructed and currently integrated in those genome studies. The genome database for livestock has also become an indispensable tool for improvement of livestock animals, however, the genome analysis of livestock animals is behind those of human and mouse. Hence, in order to maximize its usefulness, we have tried to construct the animal genome database focusing on the comparative (homology) genome analysis between species.

The stand alone retrieval system, such as Encyclopedia Of The Mouse Genome[1] or HyperGenome[2], have a problem of data update. These animal genome database is opened to the public for network users. Especially, World Wide Web users can retrieve the mapping data using by GUI interface.

Figure 1 shows organization of the animal genome database system. The database has been developed on a UNIX workstation and is maintained by a relational database system. The electric mail server and the World Wide Web server have been developed on another UNIX workstation.

These workstations were connected to Internet. Internet users or other BBS users connected to the internet can get the information using by an electric mail. A user post the mail included query forms to jgbase-mail@niai.affrc.go.jp, then the electric mail server return the query results

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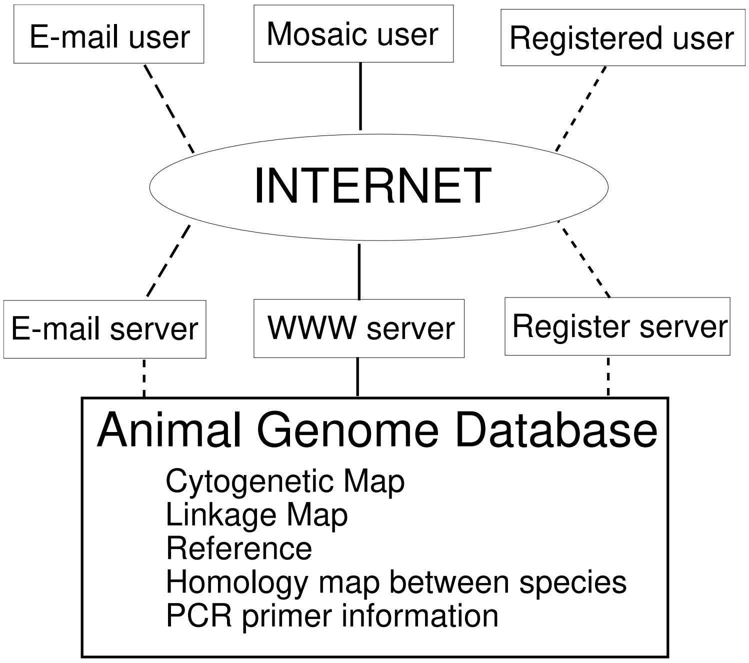


Figure 1: System overview

to the user. Keyword search and linkage map list of one chromosome are available in the query form.

World Wide Web clients, such as NCSA Mosaic, can be also used for the query of the animal genome database by opening *http://ws4.niai.affrc.go.jp/*. A user enables to display a new desirable page by clicking an anchor for selecting species or searching items. After the keyword is typed in a form and the submit button is clicked in a keyword search page, the query results are displayed in a new page.

The linkage map page is displayed, after the chromosome is clicked in a chromosome image page. The locus symbol is clicked in the linkage map page to display the detail information of the locus. The cytogenetic map and the detail information are displayed similarly. The reference, PCR primer information, and homology between species are displayed in the detail information of selected locus.

The security is important to add or modify the mapping data to the database. We are also developing the indirect server-client system for registered users. The registered users can entry new data and modify old data with security check by this system.

# References

[1] The Mouse Genome Informatics Project, "Encyclopedia Of The Mouse Genome Release 3.0 Alpha Test Version", The Jackson Laboratory, pp. 29, 1994.

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