



# **A JAVA MOBILE PHONE-BASED “HOME HELPER” CARE REPORT CREATION SUPPORT SYSTEM**

**Hidekuni Ogawa<sup>\*1</sup>, Yoshiharu Yonezawa<sup>\*2</sup>, Hiromichi Maki<sup>\*3</sup>,  
Haruhiko Sato<sup>\*4</sup>, Allen W. Hahn<sup>\*5</sup> and W. Morton Caldwell<sup>\*6</sup>**

<sup>\*1</sup>Department of Information & Intellectual System, Hiroshima Institute of Technology, Hiroshima, Japan.

<sup>\*2</sup>Department of Electronics, Hiroshima Institute of Technology, Hiroshima, Japan.

<sup>\*3</sup> Department of Clinical Engineering, International Trinity College, Hiroshima, Japan

<sup>\*4</sup> Department of Industrial Design, Kyushu Institute of Design, Fukuoka, Japan.

<sup>\*5</sup> Department of Veterinary Medicine and Surgery, University of Missouri-Columbia, Missouri 65211.

<sup>\*6</sup> Caldwell Biomedical Electronics, Hurricane, West Virginia 25526.



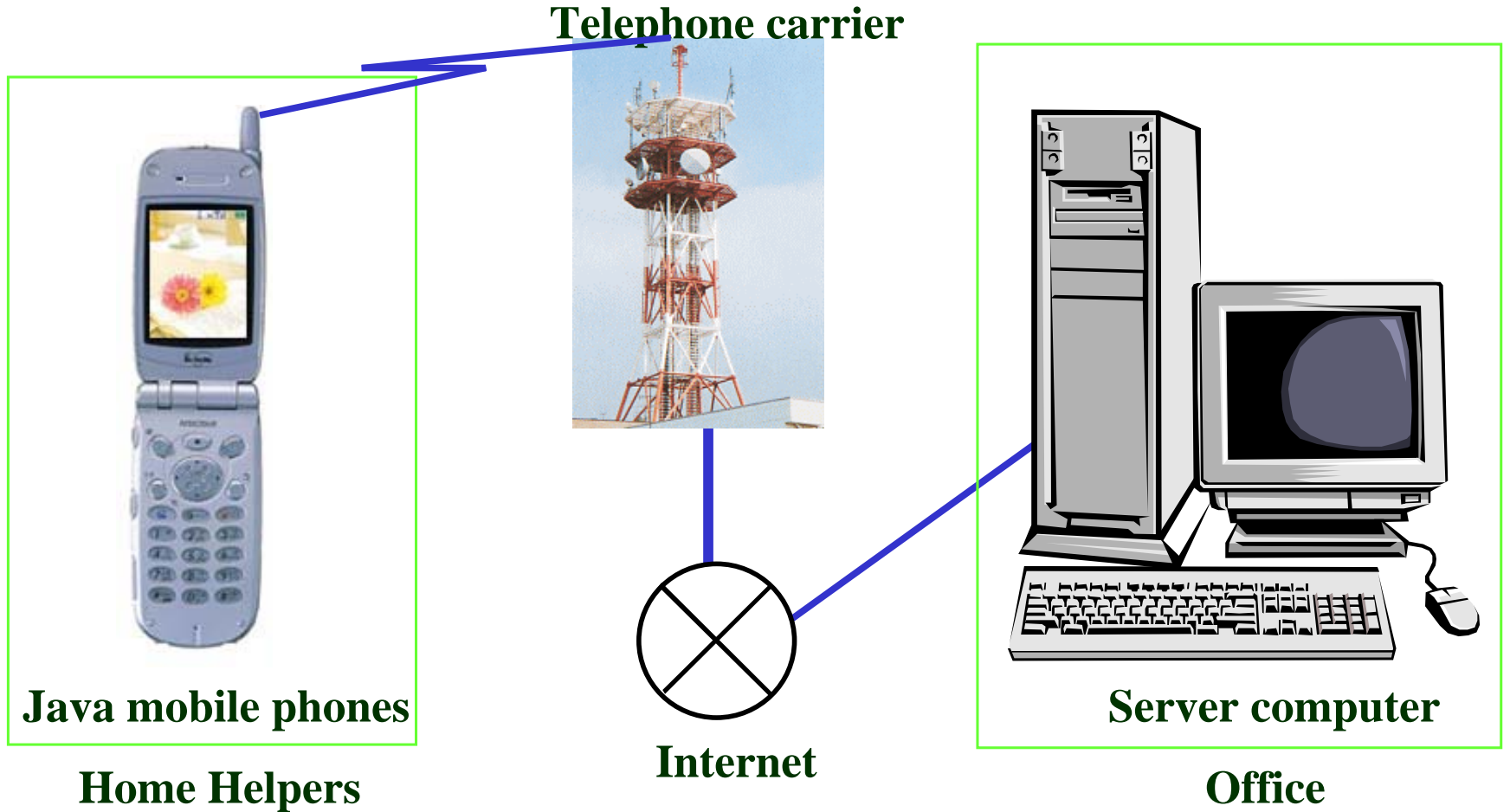
# **BACKGROUND**

- **“Home Helpers” employed by hospitals, care companies or the welfare office.**
- **“Home Helpers” are required to enter their reports on the computer at the employment office after the care visits.**
- **A number of Home Helper support systems were developed for creating their care reports directly from the elderly persons' homes to the office server computer.**
- **The system required a significant amount of time and communication costs.**

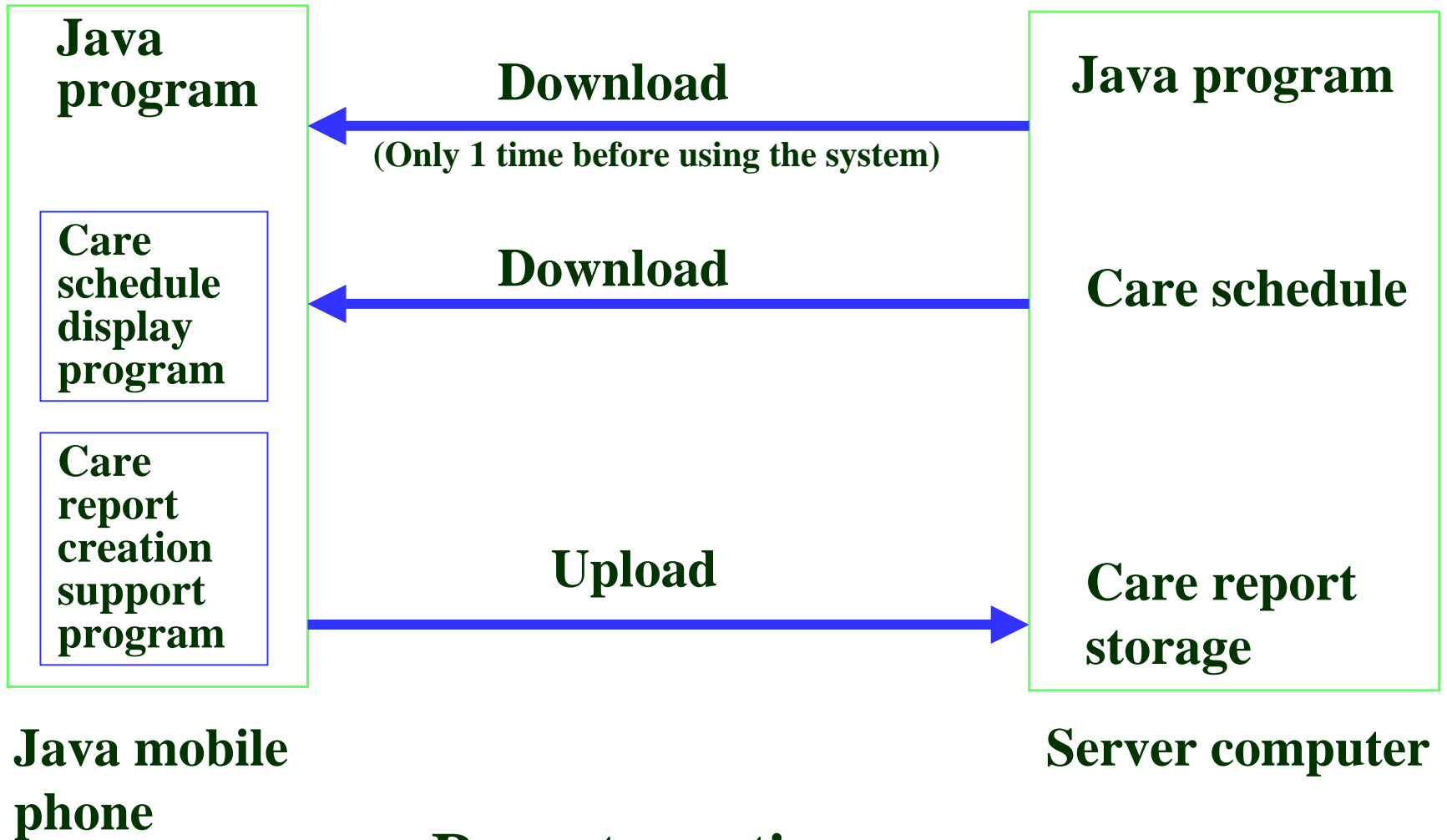


## **PURPOSE**

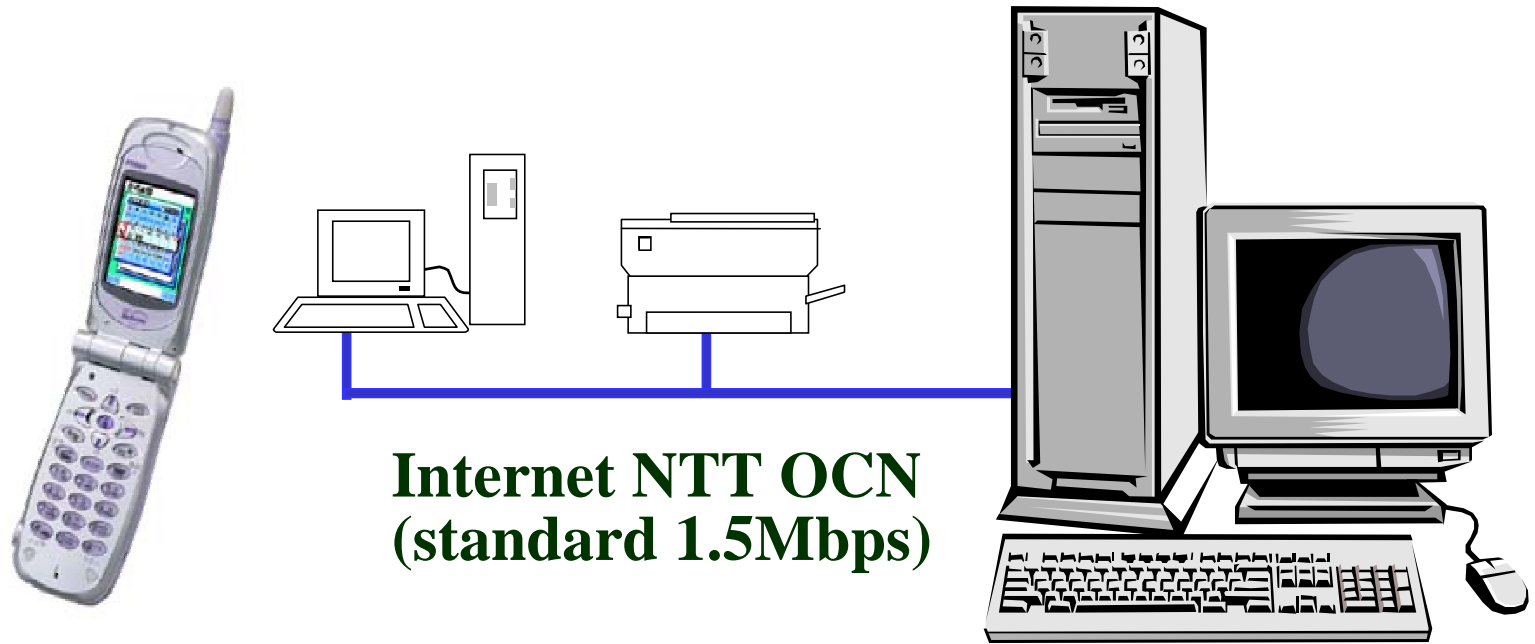
**We developed a new Java mobile phone-based Home Helper care report creation support system for reducing the data entry time and the communication costs.**



# **The overall Java mobile phone-based home helper care report creation support system**



**Report creation process**



**Java mobile  
phone**

**Internet NTT OCN  
(standard 1.5Mbps)**

**Server computer**

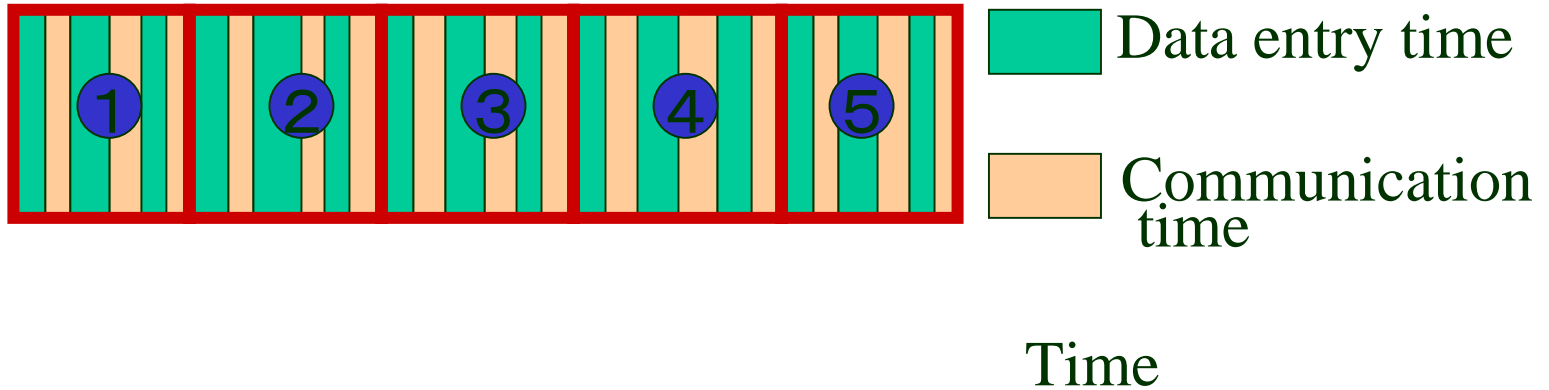
**The experiment system for care report entry time  
and communication time measurement.**



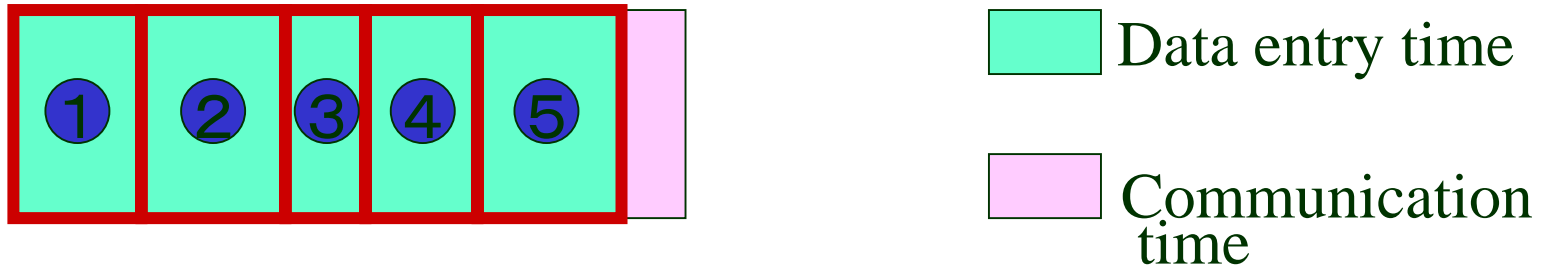
**The six items displayed on LCD of  
Java mobile phone.**



## Conventional system



## New system

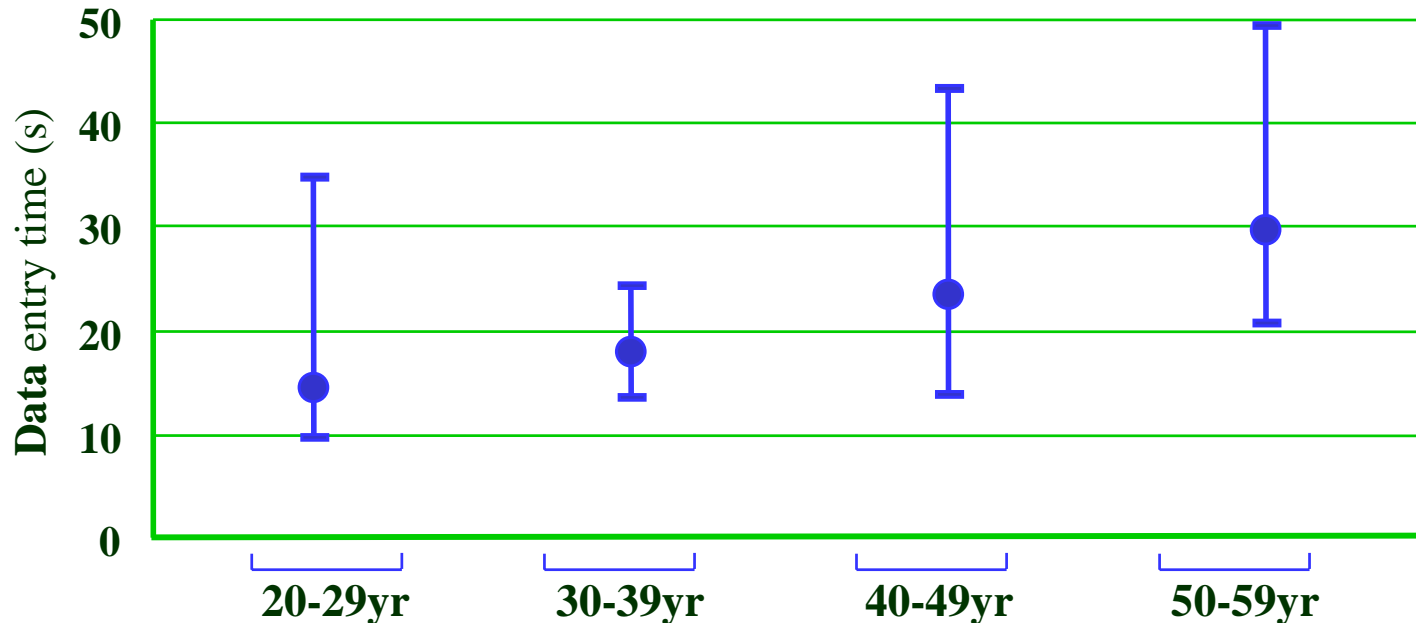


Report creation time (5 care items)





# RESULTS



- The average entry time was 20.4 seconds
- Communication time was 3.1 seconds.
- The server computer can store the file and display the report within 23.5 seconds from entry of the care data.
- The conventional web-based Home Helper support system was 78.5 seconds.



## **CONCLUSION**

- **The developed system consists of standard Java mobile phones and a desktop computer.**
- **The Java program downloaded to the mobile phone runs on the mobile phone and supports report creation in a short time.**
- **The developed system enables easy report entry by the Home Helper and saves a significant amount of personnel time and communication costs.**