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FEATURE

Osaifu-Keitai: DoCoMo's Powerfully Convenient Mobile Wallet

DoCoMo's Osaifu-Keitai™ platform for mobile-wallet services has taken Japan by storm in less than three years. Now a major offering from the company, Osaifu-Keitai turns DoCoMo phones into powerfully convenient tools for payment applications and services that build on the i-mode™ mobile Internet platform. As an innovative business model backed by increasingly sophisticated and evolving partnerships, Osaifu-Keitai forms a win-win relationship among DoCoMo, service providers and customers. "Osaifu-Keitai is changing the way people live by offering them increased flexibility and mobility," says Takeshi Natsuno, Senior Vice President and Managing Director of Multimedia Services Department, Products & Services Division, who has spearheaded Osaifu-Keitai since its infancy.

Rapid Growth

DoCoMo announced in March that users of its Osaifu-Keitai compatible handsets had doubled to over 20 million in the previous 14 months—astonishing growth for a service launched in July 2004.

An early application that grabbed attention was based on "Suica®," the popular rechargeable contactless smart card introduced by rail lines.

The downloadable Mobile Suica application turns handsets into electronic train passes. Both the Suica card and Osaifu-Keitai compatible phones incorporate Sony's FeliCa® contactless IC-chip smart card.

Osaifu-Keitai's e-money applications also have gained popularity rapidly. DoCoMo subscribers can now use their phones for payments in countless convenience stores throughout Japan, as well as Tokyo's massive fleet of taxis. Besides no more fumbling with cash, purchase histories and balances can be checked in a glance, and adding more e-money is as easy as pushing a few buttons.

Osaifu-Keitai also facilitates e-promotions and memberships from which both businesses and cus-



tomers benefit. DoCoMo's ToruCa™ information-capture service, for example, allows users to download flyers and discount coupons for a growing number of restaurants and stores.

In addition, Osaifu-Keitai enables phone-based credit-card services via DoCoMo's iD™ platform, which stores and processes credit-card data. The platform accepts not only DoCoMo's own DCMX™ credit card, but also those of other card issuers. Natsuno explains that subscriptions to the DCMX card service have grown steadily since its introduction last spring; as of April 18, 2.25 million people had become members.

New Way of Living

The effect of all this is huge. "Without ever opening up my billfold," says Natsuno, "I can use my phone to book and purchase an airline ticket, then hop into a taxi and head for the airport, download my e-boarding pass, pay for the cab at the airport, buy something to eat, drink and read, as well as book a hotel room while waiting for the flight, and then take a cab to the hotel after I land."

Supermarket chains are using Osaifu-Keitai to introduce discount and point systems. Now, supermarkets can analyze the purchasing behavior of customers to create more effective loyalty programs. Since everything is handled electronically, compa-

nies are able to dispense with paper advertising, allowing them to save money while conserving natural resources.

Revolution for Service Providers

Osaifu-Keitai is a win-win model for customers and retailers/service providers because what's good for the former is good for the latter. Japan's convenience stores, for example, have jumped at Osaifu-Keitai because its ease of use leads to increased consumer spending. Airlines love how the system facilitates consumer relationship management (CRM) and related loyalty schemes, while passengers happily earn mileage and discounts when they book and pay for flights with their DoCoMo phones.

McDonald's Japan made news recently by announcing it will offer phone-based payments (iD) and mobile information services (ToruCa) from October. In an industry where service models are based on speed and simplicity, Osaifu-Keitai enables McDonald's to shave valuable seconds off each purchase, because the customer simply waves the phone over a reader. McDonald's will also build loyalty programs through ToruCa-based memberships and discounts.

"It's not enough to just develop the technology. The business model is equally important," Natsuno says.

But technology, especially security, is vital to the success of any service used for financial transactions. Losing an Osaifu-Keitai compatible phone is much like losing one's credit card, so DoCoMo operates a help center that customers can contact 24/7 to have their lost phone disabled remotely. Not only Osaifu-Keitai functions, but all personal data and e-mail, as well as address book, can be secured over PC or through dialing in from a pre-registered phone number.

Secure Future

Turning to the future, Natsuno expects DoCoMo subscribers who have Osaifu-Keitai compatible handsets to grow rapidly for the next several years. Moreover, with the emergence of mobile-wallet services outside of Japan, DoCoMo's i-mode partners around the world are showing strong interest in Osaifu-Keitai technology and business models.

Although it's still too early to predict the future scale of services both in Japan and overseas, the trend in Japan is crystal clear. "The mobile wallet concept, as well as the infrastructure to support it, is becoming a permanent part of our lives," Natsuno says.



World Reaches for its Mobile Wallet

The mobile wallet concept, commercialized on a large scale in Japan and South Korea, is gradually catching on in other countries, as evidenced by a growing number of trials being announced in Europe, the U.S. and Asia.

NTT DoCoMo's i-mode partners, for example, are among the many mobile operators eagerly exploring the potential of mobile-wallet services. French provider Bouygues Telecom plans to test services for Parisian subways, buses and trams, while in Hong Kong, Hutchison Telecom's CEO Peter Wong says: "NTT DoCoMo's Osaifu-Keitai has been very successful in Japan. Users continue to increase, keeping us interested in its development. We are interested because we ourselves are considering expanding our service menu by adding mobile-wallet capabilities to our services."

In the United States, a group of companies is testing a service in New York that enables credit card holders to use their phones for payments at stores and in the subway. Also in Atlanta, Chicago and Salt Lake City, mobile payments trials are underway that bring together credit card companies, software developers and network operators.

Indications are that the next few years could see exciting developments in mobile-wallet applications. Technology analyst company In-Stat agrees, predicting that in the North American market alone, as many as 25 million subscribers could be using mobile wallets by 2011.



LiMo Foundation

The LiMo Foundation is a non-profit organization set up by leading mobile companies in January 2006 to create the world's first globally competitive, Linux®-based software platform for mobile devices. NTT DoCoMo is a founding member, along with Motorola, NEC, Panasonic Mobile Communications, Samsung Electronics and Vodafone.

The foundation aims to leverage the mobile Linux platform to create an open, transparent, scalable ecosystem spanning the applications and middleware communities, and to encourage the creation of compelling, differentiated and enhanced consumer experiences.

Since the earlier stages of the mobile industry, operators and manufacturers have been increasingly burdened with the responsibility of guiding the development of software for their various proprietary platforms. DoCoMo has been addressing this issue since 2003 by focusing on two operating systems for its mobile devices—Symbian OS and Linux—onto which it layered its Mobile Oriented Applications Platform (MOAP™), which it co-developed with manufacturers. Such efforts have now become an industry-wide movement through the LiMo Foundation.

The foundation is accepting applications for new members interested in developing application programming interfaces (APIs) and architecture, and contributing source code for common components in the Linux-based mobile platform. Major mobile device and software companies are also likely to join.

The foundation is currently directed by acting Chairperson Kiyohito Nagata, Vice President and Managing Director of the Product Department at DoCoMo.

DoCoMo
PARTNERS

LiMo Foundation Pursues Linux Platform for Mobile Devices

TELECOMMUNICATIONS RESEARCH By InfoCom Research, Inc.

Current State of MVNOs Market

One of the many interesting features of the mobile market is mobile virtual network operators (MVNOs), which provide mobile phone services by using the network infrastructure of mobile network operators (MNOs). Since appearing first in Norway in 1998, MVNOs have spread across Northern Europe, North America and the world beyond.

Although MVNOs could be seen as new competition for MNOs, generally they have been accepted into the market because they enable MNOs to leverage commercial potential by expanding reach into niche markets and increasing network utilization.

Many MVNOs in North America have used highly targeted marketing to break into niche markets. Amp'd Mobile and Boost Mobile are catering to the youth market with music and sports content, while Helio is partnering with MySpace to focus on social networking. Disney Mobile targets families with kids, while the prepaid services of TracFone Wireless are popular in the Hispanic community.

Strong sales channels have contributed to success in the U.K. market. Several popular MVNOs have used the muscle of their parent companies to develop customers, including Virgin Mobile (parent: Virgin Media), Fresh Mobile (Carphone Warehouse, Europe's biggest independent handset retailer), Tesco Mobile (major retailer Tesco and telecom O2) and BT Mobile (telecom BT Group).

Major MVNOs in the Global Market



Source: InfoCom Research, Inc.

3G FOMA N904i Premiers in Milan

DoCoMo premiered its new 3G FOMA™ N904i handset during Milan's Design Week, which this year took place from April 18 to 23.

Renowned designer Stefano Giovannoni, working in collaboration with manufacturer NEC Corporation and DoCoMo, developed many of the handset's design elements, including contrasting inner/outer-shell colors, "two-box" shape, main and standby screens, fonts and more.

Giovannoni has collaborated in design projects for a number of world-famous companies and his works are in the permanent collections of Paris' Centre Georges Pompidou and MOMA in New York.

As part of the N904i premiere, Giovannoni hosted a party at his private residence/studio. Guests included journalists from the domestic and international media and members of the design industry. Representing DoCoMo was Takeshi Natsuno, Senior Vice President and Managing Director of the Multimedia Services Department.



Stefano Giovannoni



New Advisory Board Holds First Meeting in USA



Michael K. Powell

DoCoMo's fourth U.S. Advisory Board, chaired by former United States Federal Communications Commission (FCC) Chairman Michael K. Powell and including Dr. C. Fred Bergsten, founder and director of the Peterson Institute for International Economics, held its first meeting in Washington, D.C. in April.

Special guests at the meeting were Paul A. Laudicina, Chairman of the Board and Managing Officer of A.T. Kearney, Inc., and Alex Liu, Vice President of Communications, Media, and High Technology Practice at A.T. Kearney.

Together with DoCoMo CEO Masao Nakamura and other DoCoMo representatives, the board discussed a wide range of topics including recent trends in the U.S. telecom industry.

The board will meet twice a year in the United States and will have a term of two years. The second meeting is planned for this fall.

DoCoMo DATA

Pocket-Bell Boom Paved Way for Mobile Communication Culture

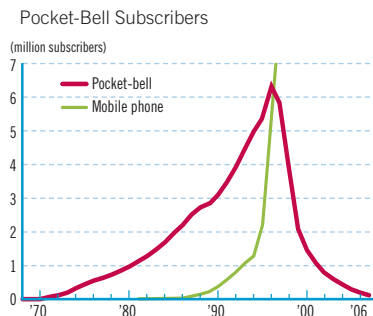
A utilitarian device for emergency communication met a youthful demographic seeking fun, and the result was the "Pocket-bell" boom.

DoCoMo launched a pager service in 1968, but it would be a quarter century before young women, irresistibly drawn to "messaging," transformed Pocket-bells into a cultural icon.

In 1991, 90% of users were in corporate and government sectors. By 1996, however, nearly two-thirds of new subscribers were females aged 10–19. In this peak year, DoCoMo pager subscribers numbered 6.5 million, of which 70% were private individuals sending between 20–30 messages a day.

With input initially limited to numbers, communication was accomplished with clever homonymic code that appealed to the Japanese love of word play. It later became possible to input *kana* letters and *kanji* characters.

The decline in subscribers began in 1997, the year DoCoMo introduced its short-message service, and gained pace when i-mode™ (1999) and FOMA™ 3G (2001) services appeared. A bridge between eras, the Pocket-bell is now a fond memory.



March 6, 2007 ▶ The Raku-Raku PHONE Basic model will be added to DoCoMo's Raku-Raku PHONE series of simplified handsets in April. Software enables the other person's voice speed to be slowed slightly for better comprehension, and a noise-detection feature automatically adjusts voice and ringtone volume to ambient noise.

March 14, 2007 ▶ The F903iBSC has become DoCoMo's next 3G business-use handset. To prevent information leaks, the camera, external memory, USB/infrared ports and e-wallet features are unavailable. The phonebook, e-mailer, scheduler, etc. can be reset remotely if the handset is lost or stolen.

April 3, 2007 ▶ Newly developed speech-coding technology will provide exceptionally high-quality voice for mobile phones. The frequency range of 50Hz–16kHz, approximately the full range of the human voice, greatly exceeds legacy telephony voice quality of 300Hz–3.4kHz.

April 20, 2007 ▶ DoCoMo has joined the (PRODUCT) RED™ initiative with the M702iS RED handset from Motorola. DoCoMo is donating 1% of each user's monthly bill, and Motorola approximately 1,000 yen for each handset purchased, to the Global Fund to fight AIDS in Africa.

April 23, 2007 ▶ Five new 3G FOMA 904i handsets were unveiled for DoCoMo's flagship 9 Series. Advanced features include the "2in1" function enabling one handset to use two phone numbers and two mail addresses, "Uta-hodai" service compatibility to download full-track music for flat monthly fees, and intuitive-motion gaming.



i-mode, FOMA, Osaifu-Keitai, ToruCa, iD, DCMX and MOAP are trademarks or registered trademarks of NTT DoCoMo, Inc. in Japan and other countries.

NTT DoCoMo's FOMA service is only available to subscribers in Japan.

"Osaifu-Keitai" refers to mobile phones equipped with a contactless IC card for useful online functions/services such as electronic money, credit card payments, electronic ticketing, memberships, and more.

Suica is a registered trademark of East Japan Railway Company.

FeliCa is a contactless IC chip technology developed by Sony Corporation.

FeliCa is a registered trademark of Sony Corporation.

Linux is a registered trademark of Linus Torvalds in the U.S. and other countries.

(PRODUCT) RED is a trademark of The Persuaders, LLC and is licensed to (RED) partners.

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