

Context Awareness R&D at SAIT Interaction Lab

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Seoul
Suwon
Daejeon
Daejeon
Busan

ubPCMM 06: 1st International Workshop on Personalized Context Modeling and Management for Ubicomp Application

SAMSUNG and SAIT Interaction Lab Leading the Next



<p>Financial Services</p> <ul style="list-style-type: none"> Fire Marine Credit cards Life insurances etc. 	<p>Electronics Industries</p> <ul style="list-style-type: none"> MR 148 142C010-C73 MR 148 142C010-C73 etc. 	<p>Not-For-Profit Organizations</p> <ul style="list-style-type: none"> Ho-em Foundation Samsung Economy R.L. Samsung Welfare Center etc. SAIT 	<p>Other Biz. Areas</p> <ul style="list-style-type: none"> Chell communications Shilla Hotels and resorts Everland amusement park etc.
<p>Digital Research Center</p> <p>Technology Leads - Program Teams</p> <ul style="list-style-type: none"> Smart TV Smart Home Smart Mobile Smart Network Smart Service <p>SAIT SERVICE</p> <ul style="list-style-type: none"> SAIT Center SAIT Center SAIT Center SAIT Center SAIT Center 		<p>Materials & Devices Research Center</p> <p>Technology Leads - Program Teams</p> <ul style="list-style-type: none"> Smart TV Smart Home Smart Mobile Smart Network Smart Service 	

Samsung Electronics Co., Ltd. | Samsung Corning Precision Glass Inc.
 Samsung WFI Co., Ltd. | Samsung SDS Co., Ltd.
 Samsung Service-Marketing Co., Ltd. | Samsung Techwin Co., Ltd.
 Samsung Corning Co., Ltd. | Samsung Networks Inc.

Mission : The Challenge of Innovation Leading the Next

Dominant Design by the Next UI Technology

Leading the Next UI Technology

Leading the Next Samsung

TN's Next	Post - Mobile
DM's Next	Post - DTV (Interactive & Media-rich)
DA's Next	Post - Home Appliance

Next UI Technology: Intelligence & Mobility

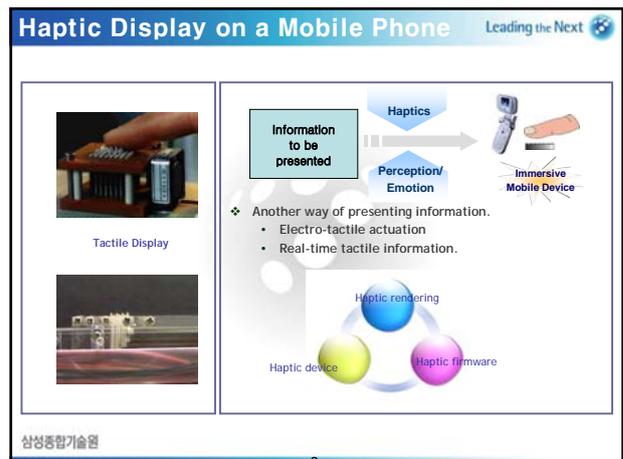
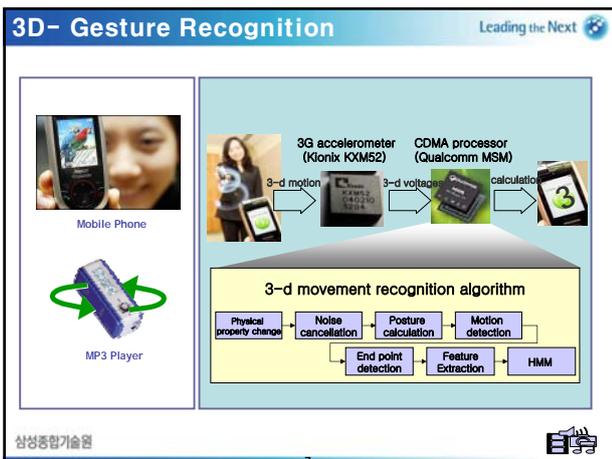
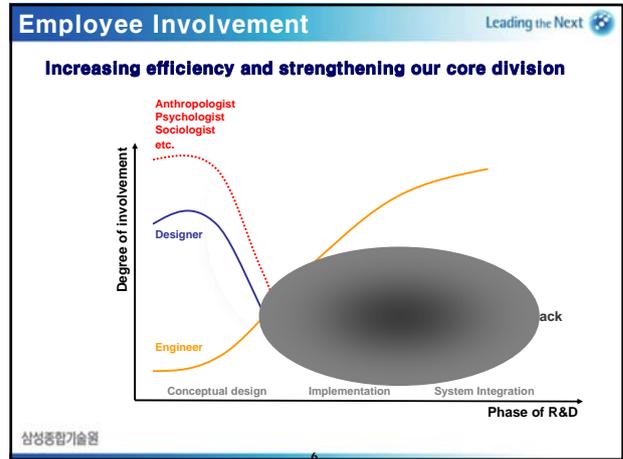
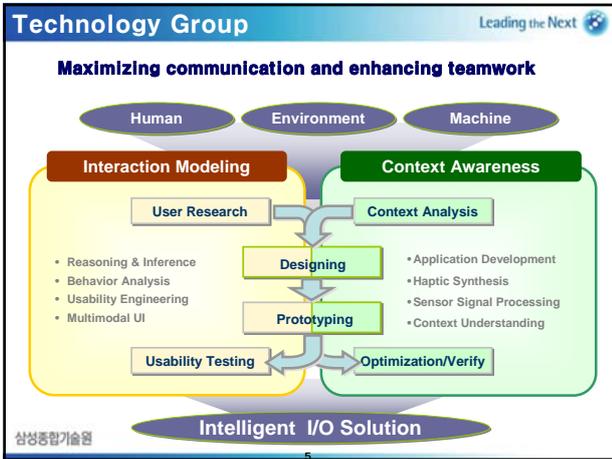
삼성종합기술원 * TN: Telecommunication Networks, DM: Digital Media, DA: Digital Appliance

Technology-oriented next UI Leading the Next

	Conventional UI	Next UI
UI Realization	Graphical UI Physical UI Auditory UI	Gesture UI Voice UI Haptic UI Touch UI ...
↕	Information Architecture	* Intelligent Agent
Basic Tech.	Graphic Processing Audio/Sound Processing Physical Design	Sensing Context Awareness User Modeling

* Comprise inference rules, intelligent agent, proactive response etc.

삼성종합기술원



SCURRY™ : Wearable Input Device Leading the Next



Scurry™

- Wearable & Virtual Input Device
- User configurable HW/SW



SCURRY wearable input device

IMEMS

Mobile device Easy of use

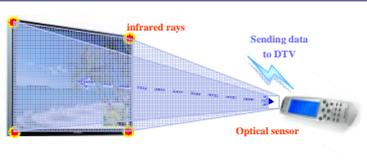
Immersive 3D game New experience

Wearable computer Core technology

삼성종합기술원

Interactive Remote Controller Leading the Next





- Point detection using 4 LEDs & vision sensor
- Absolute pointing (Usable for DCM)

삼성종합기술원

Direct Mapping UI Leading the Next





DTV



Remote Controller

- 'look-and-feel' concept

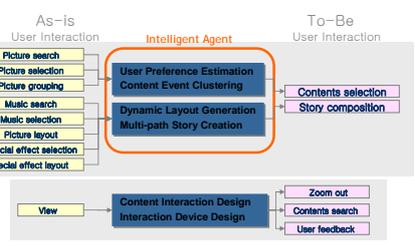



삼성종합기술원

Intelligent Content Creation Leading the Next



- Preference estimation
- Story creation



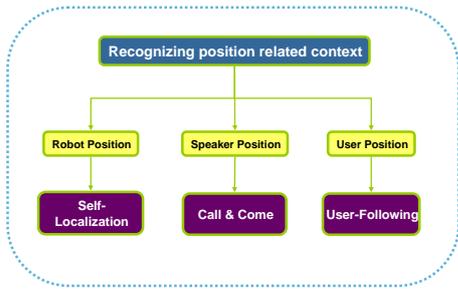
As-is User Interaction

Intelligent Agent

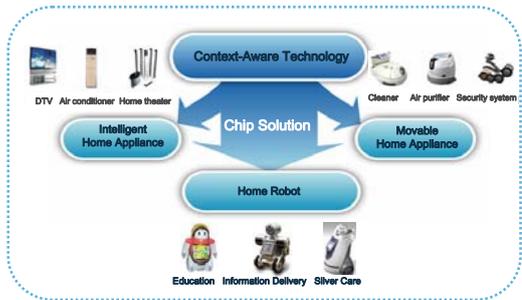
To-Be User Interaction

삼성종합기술원

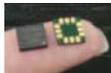
Home Robot : Context-aware Technology Leading the Next



Home Robot: Application Areas Leading the Next



Electronic Compass Leading the Next



Microprocessor & UART Interface Type
(6.5 X 6.5 X 1.2 mm³)

Digital Output & SPI Interface Type
(4 X 4 X 1.2 mm³)



Map Heading-up



UC Service Scenario (1/4) Leading the Next

▶ Make-up



Level 1	<p>Hyun-Hyi, a university student, requests information necessary for make-up from Make-up agent in front the u-mirror of before going to class in the morning.</p> <p>Make-up agent informs her the schedule, the spare time, the weather, and the her state of skin on the u-mirror.</p> <p>She decides to go to class fast after doing her make-up.</p>	<p>Hyun-Hyi asks Make-up agent which make-up is suitable sitting in front of the u-total stand.</p> <p>Make-up agent informs her information about her schedule, today's weather, the time required for make-up, and her state of skin.</p> <p>She decides to do the basic make-up, sun-protection, and the color-tone make-up for going-out.</p>
Level 2	<p>Hyun-Hyi, a university student, requests information necessary for make-up from Make-up agent in front the u-mirror of before going to class in the morning.</p> <p>Make-up agent tells that she have the spare time of 30 minute and suggests doing the make-up because it has the strong direct ray of light today.</p> <p>She decides to do the make-up fast.</p>	<p>Hyun-Hyi asks Make-up agent which make-up is suitable sitting in front of the u-total stand.</p> <p>Make-up agent suggests two ways: First, doing the basic and sun-protection make-up because it has the strong direct ray of light today, and she has the sensitive skin. Second, doing both the color-tone make-up and the basic and sun-protection make-up because she is scheduled to go out.</p> <p>She takes the second suggestion.</p>
Level 3	<p>Hyun-Hyi, a university student, requests information necessary for make-up from Make-up agent in front the u-mirror of before going to class in the morning.</p> <p>Make-up agent advises her to finish the make-up within 20 minutes, considering the spare time before class, today's weather, and her state of skin.</p>	<p>Make-up agent concludes that she needs the sun-protection make-up as well as the basic make-up, moreover she is required to do the color-tone make-up because she is scheduled to go out.</p>



UC Service Scenario (2/4) Leading the Next

▶ Make-up



Level 1

On requesting the method for make-up, Hyun-Hyi takes from **Make-up agent** information about today's schedule and weather, her state of skin, various ways for make-up, and her usual history of make-up, and the make-up fitting to her style. She chooses the make-up to reduce the time required and fit to the color of her cloth.

On taking request for make-up method, **Make-up agent** shows information about the state and the location of cosmetics necessary for the selected make-up. She finds the cosmetics and gets ready to do the make-up.

Level 2

On taking request for make-up method, **Make-up agent** suggests two make-up methods: type A and type B, considering the little spare time and her cloth. She chooses the type A.

When Hyun-Hyi asks the state of cosmetics, **Make-up agent** tells that all the cosmetics are fine and some of them are located in **u-cosmetics refrigerator**, and suggests she take some brushes from her sister's room. She take them off **u-cosmetics refrigerator** and bring the brushes.

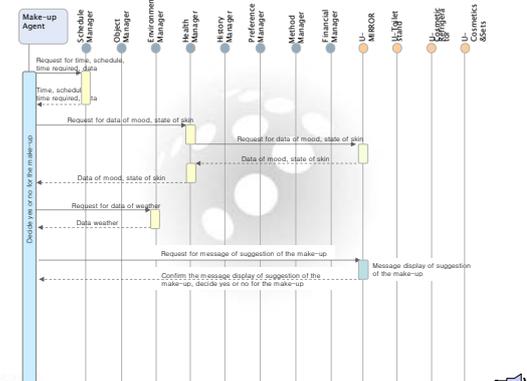
Level 3

Make-up agent concludes the type A for the make-up, considering the little spare time and her cloth.

Make-up agent checks the state of cosmetics set and sends the request message to bring brushes to her sister. Cosmetics necessary in the **u-bottle stand** and the **u-cosmetics refrigerator** flash, so she easily finds them.

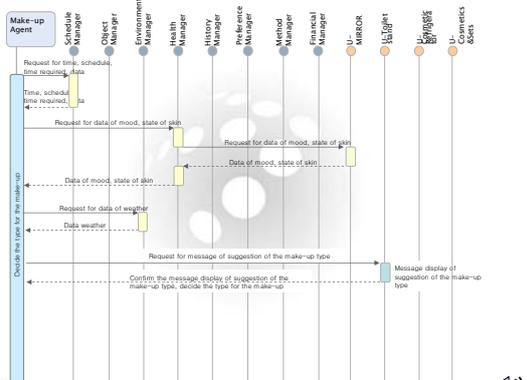
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UC Service Scenario (3/4) Leading the Next



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UC Service Scenario (1/4) Leading the Next



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THANK YOU !

Some men see things as they are and say "Why?"
I dream things that never were and say "Why not?"
- Robert F. Kennedy -

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