

URC

Context - Awareness Computing in Ubiquitous Robotic Companion

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.....
.
.
. CAMUS
.

URC

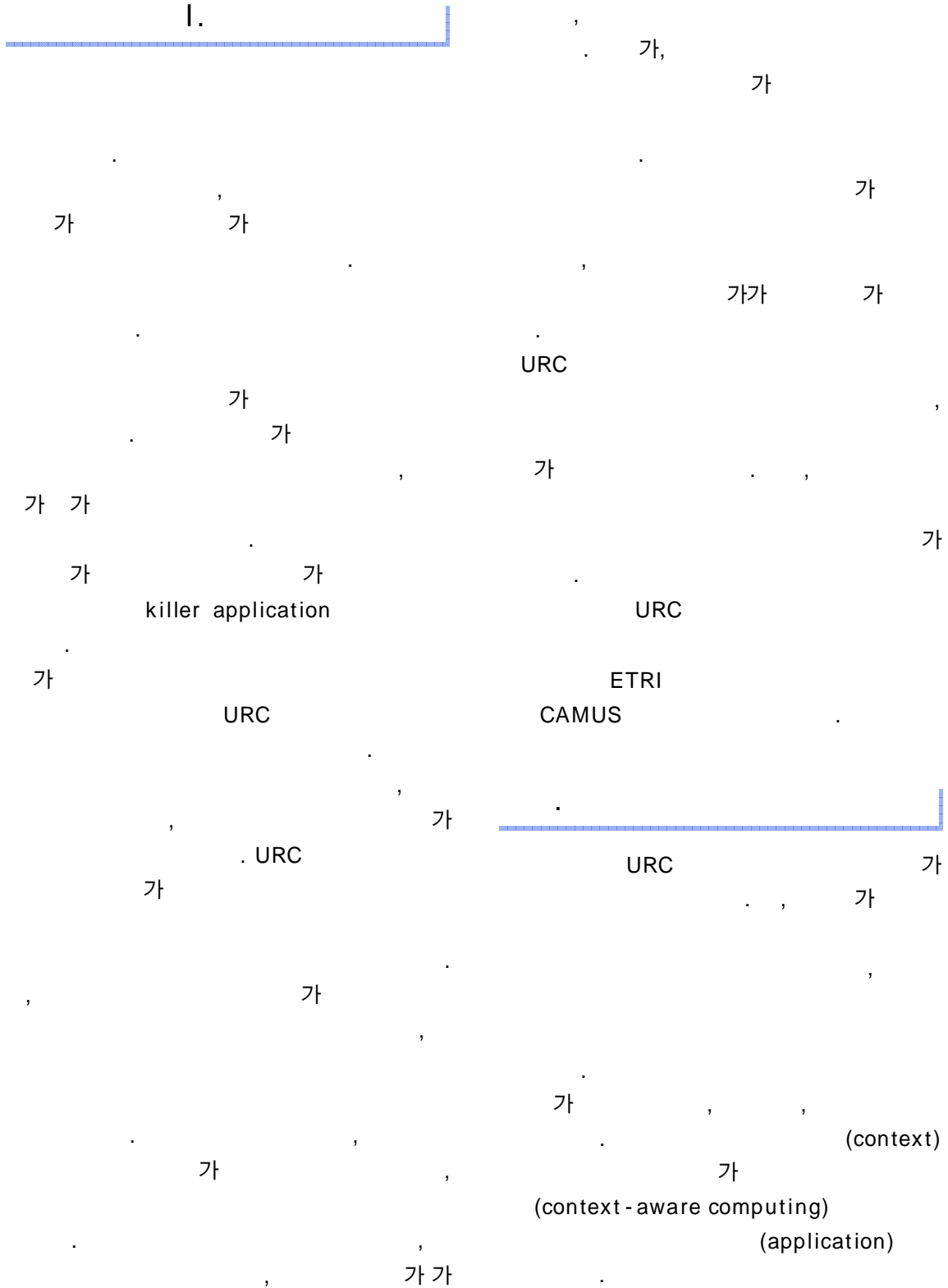
. URC

가
가 . URC

ETRI

CAMUS

I.



1.

Merriam - Webster Collegiate Diction - ary "context" " 가가

. Schmidt " , , "

[3]. Dey " , , "

[4]. Chen " , , "

(settings)

가

, Schilit [1].

[2].

(active)

• Computing context:

(passive)

• User context:

• Physical context:

2.

Guanling Chen David Kotz

[2].

가

• Time context: , (week), (month),

(location) 가

가

가

가

가

가

가

가

가



20 2 2005 4

GPS . , , 가
 GPS 10 “ ”
 10~20 가 가 . 가 .
 , GPS 가 가
 가 . 가 가
 . 가 가
 , Xerox ParcTab Oivetti Active
 Badge (IR) .
 AT&T Personal Shopping .
 Assistant RF 가
 .
 . GUIDE . 가
 , IEEE 802.11 (, 가 가
 WaveLAN , 가)
 802.11 .
 Mobile-IP . GIS가
 .
 가 .
 .
 (symbolic)
 (geometric) .
 가 , GPS
 .
 .
 , 가 3.
 , IR , 가
 , 가
 가

Schilit

[1].

- Proximate selection:

가

- Automatic contextual reconfiguration:

가

- Contextual information and commands:

- Context-triggered actions:

IF-THEN

Pascoe (contextual sensing), (contextual adaptation), (contextual resource discovery), (contextual augmentation) [5].

. Dey

[4]. ,

. Chen Kotz

[2].

- Active context awareness:

- Passive context awareness:

4.

10

가

- Call Forwarding[6]: Olivetti Research Ltd.

가

가 가

- Teleporting[7]: Olivetti Research Ltd.

- Active Map[8]: Xerox PARC

- Mobisaic Web Server[9]: Washington

Mobisaic

가

URL

URL

가

- Shopping Assistant[10]: AT&T Bell

가

가

가 가

- Cyberguide[11]: Georgia

가

가
가

가

가
가

GPS
IR positioning

- Conference Assistant[12]: Georgia

ad-hoc

[14].

가 가

CAMUS

가 / 가

ETRI URC

CAMUS

(1) CAMUS

- People and Object Pager[13]: Kent

CAMUS

가

. Pager

가 가

가

1. 가

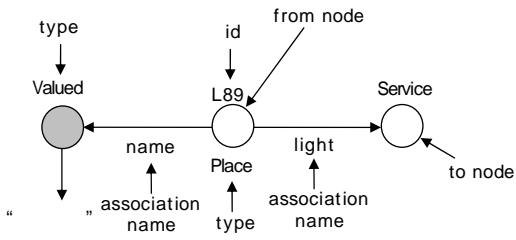
- Adaptive GSM phone and PDA[3]:
Star-lab TEA PAD

가 (sensor modeling), (service modeling), (environment modeling), (user modeling) (task modeling)

가

(task engine)

, 가



(2) Universal Data Model

, if "action"
 ,
 가 ,
 if
 UDM 가
 (path expression)

2.

(3) CAMUS

가 (from
 node) , 가 (to
 node) . (2) UDM

(sensor framework)

"light" 가
 "L89" 가 ,
 "name" " "
 valued , "light"

(speech recognizer)

CAMUS 가
 ECA (context process-
 event condition ing engine)
 , action

CAMUS symbolic data
 Java UDM

PLUE
 PLUE event
 (event notification system)
 (task engine)

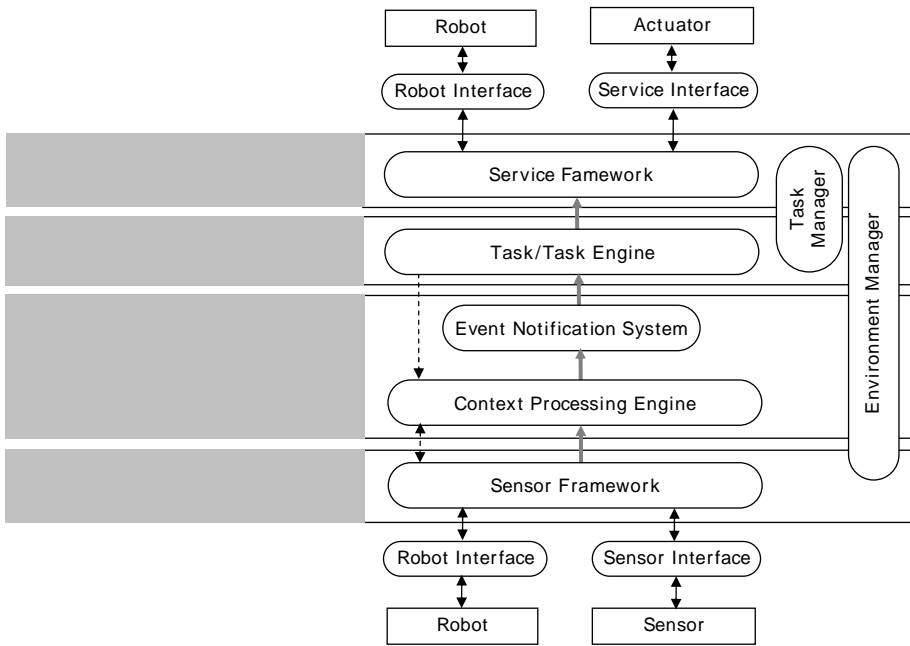
```

on($place.temperature::ValueChanged e)
if(e.value>$place.resident.preferred_temp.high)
{
    $place.air_conditioner.turnOn();
}

```

"on" (task manager)
 (event description) , "if"

/ URC



(3) Task Execution in CAMUS

(fact) (rule) JESS ,
 (service frame- , CAMUS
 work)
 3. URC 가
 CAMUS URC CAMUS
 (sobot) CAMUS . CAMUS
 (sobot platform)
 (sobot core), (sobot) 가 가
 (sobot home) 가 가

CAMUS	Context - Aware Middleware for URC Systems
ECA	Event Condition - Action
GIS	Geographical Information System
GPS	Global Positioning System
IDL	Interface Definition Language
IR	Infrared
PLUE	Programming Language for Ubiquitous Environment
RF	Radio Frequency
UDM	Universal Data Model
URC	Ubiquitous Robotic Companion

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