



Personal Agents Coming to the Rescue with Web Services

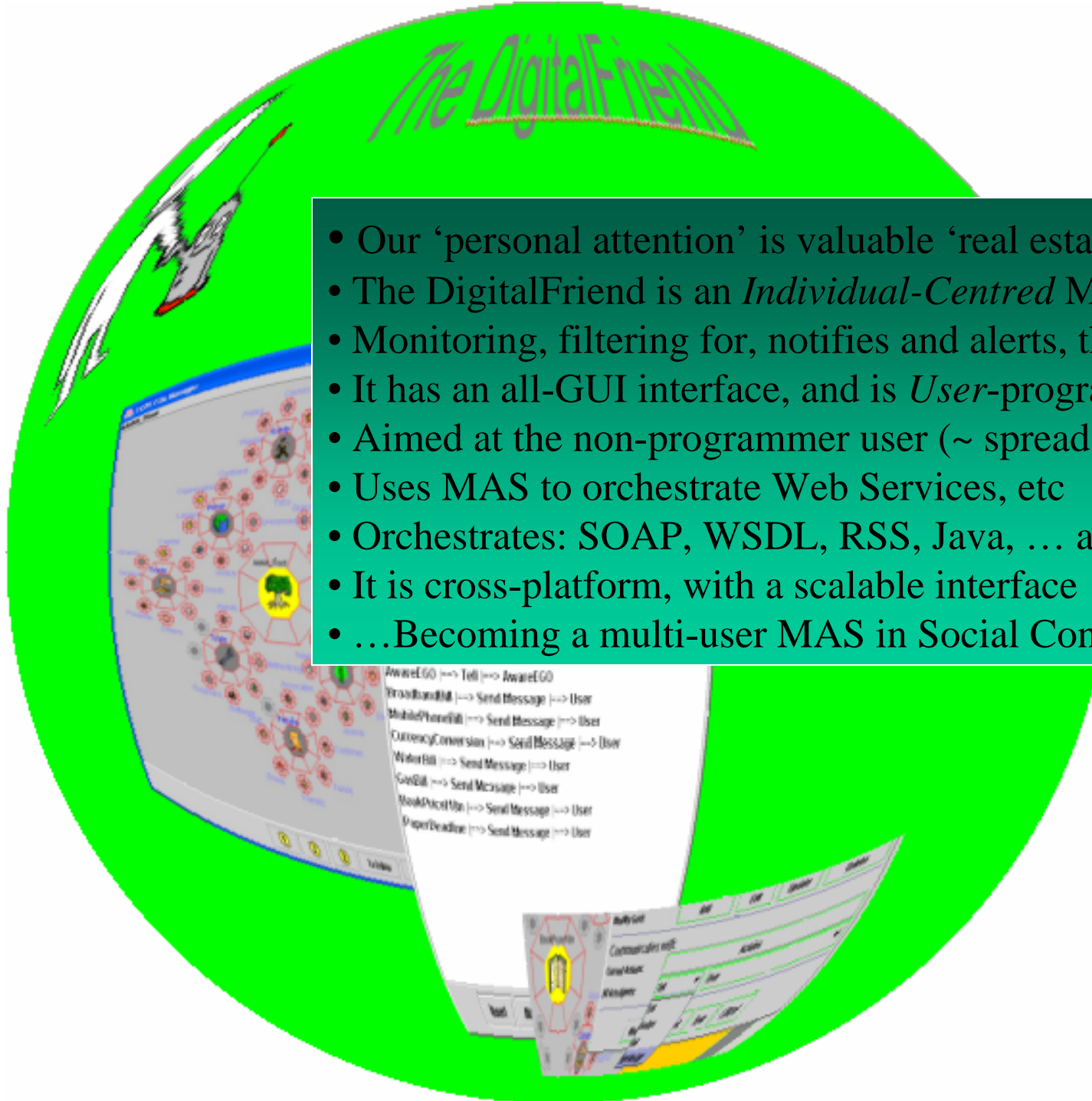
by Kuldar Taveter and colleagues

The University of Melbourne >



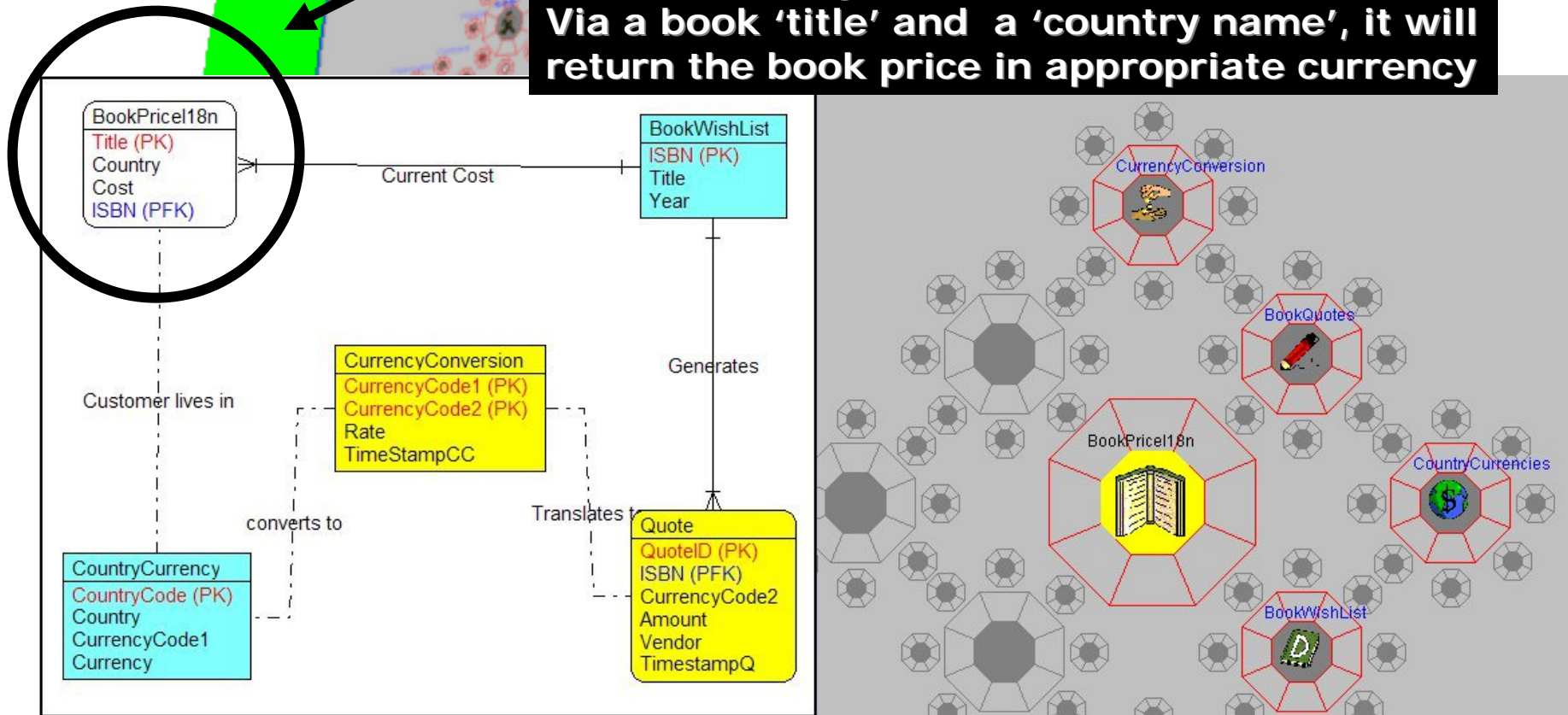
The Digital Friend

- Our 'personal attention' is valuable 'real estate'
- The DigitalFriend is an *Individual-Centred* MAS
- Monitoring, filtering for, notifies and alerts, the user
- It has an all-GUI interface, and is *User-programmed*
- Aimed at the non-programmer user (~ spreadsheet), up
- Uses MAS to orchestrate Web Services, etc
- Orchestrates: SOAP, WSDL, RSS, Java, ... and more
- It is cross-platform, with a scalable interface
- ...Becoming a multi-user MAS in Social Contexts



The 'BookPrice18n' EoC Agent

e.g. User-developed *Book Price Internationalisation Agent*, within their *DigitalFriend*. It orchestrates four sub-agents (via a logic rule), including 2 wrapped Web services, to provide the up-to-date price, in user's currency of choice. Via a book 'title' and a 'country name', it will return the book price in appropriate currency



Digital Friend

File Edit View Go Tool Help

BookPrice18n

Modify EOC

Agent Generic Fields

Agent Name:

Role: **Knowledge Seeker** ▼

Sub-Role: **Information Officer** ▼

Sub-Type: **CoLoG EOC** ▼

ID:

Icon:

Envelope-Of-Capability Specific Fields

Performance Function: ▼

Predicate Name:

Terms: ▼

Modify Terms:

GroundTerm Path:

Logic Rules:

Current Goal: ▼

Goals: ▼

Modify Goal:

Communicates with:

Current Actions: **Actions**

All Acts/Agents: ▼ ▼

1 2 3

Reconciling ontological differences by assistant agents

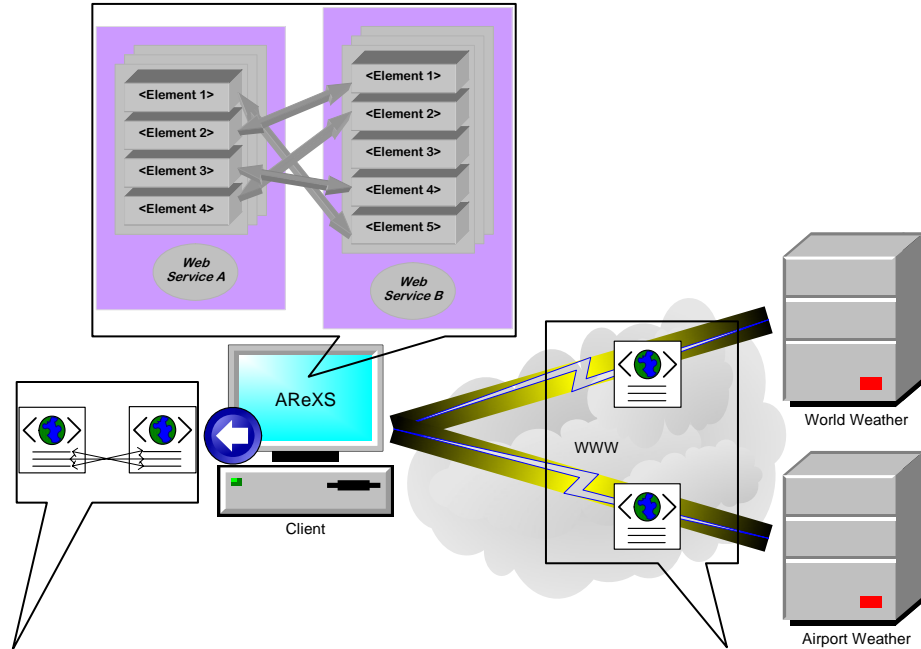


Table 1. Matching between data elements of the "World Weather" and "Airport Weather" Web services.

	<Location>	<Humidity>	<Pressure>	<Sky>	<Temperature>	<Visibility>	<Wind>
<1>	0.95012	0.0	0.0	0.0	0.0	0.0	0.0
<2>	0.95575	0.0	0.0	0.0	0.0	0.0	0.0
<3>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<4>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<5>	0.97643	0.0	0.0	0.0	0.0	0.0	0.0
<6>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<7>	0.0	0.0	0.0	0.0	0.0	0.0	0.99999
<8>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<9>	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<10>	0.0	0.0	0.0	0.0	0.97845	0.0	0.0
<11>	0.0	0.0	0.0	0.0	0.95376	0.0	0.0
<12>	0.0	0.99923	0.0	0.0	0.0	0.0	0.0
<13>	0.0	0.0	0.99968	0.0	0.0	0.0	0.0
<14>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

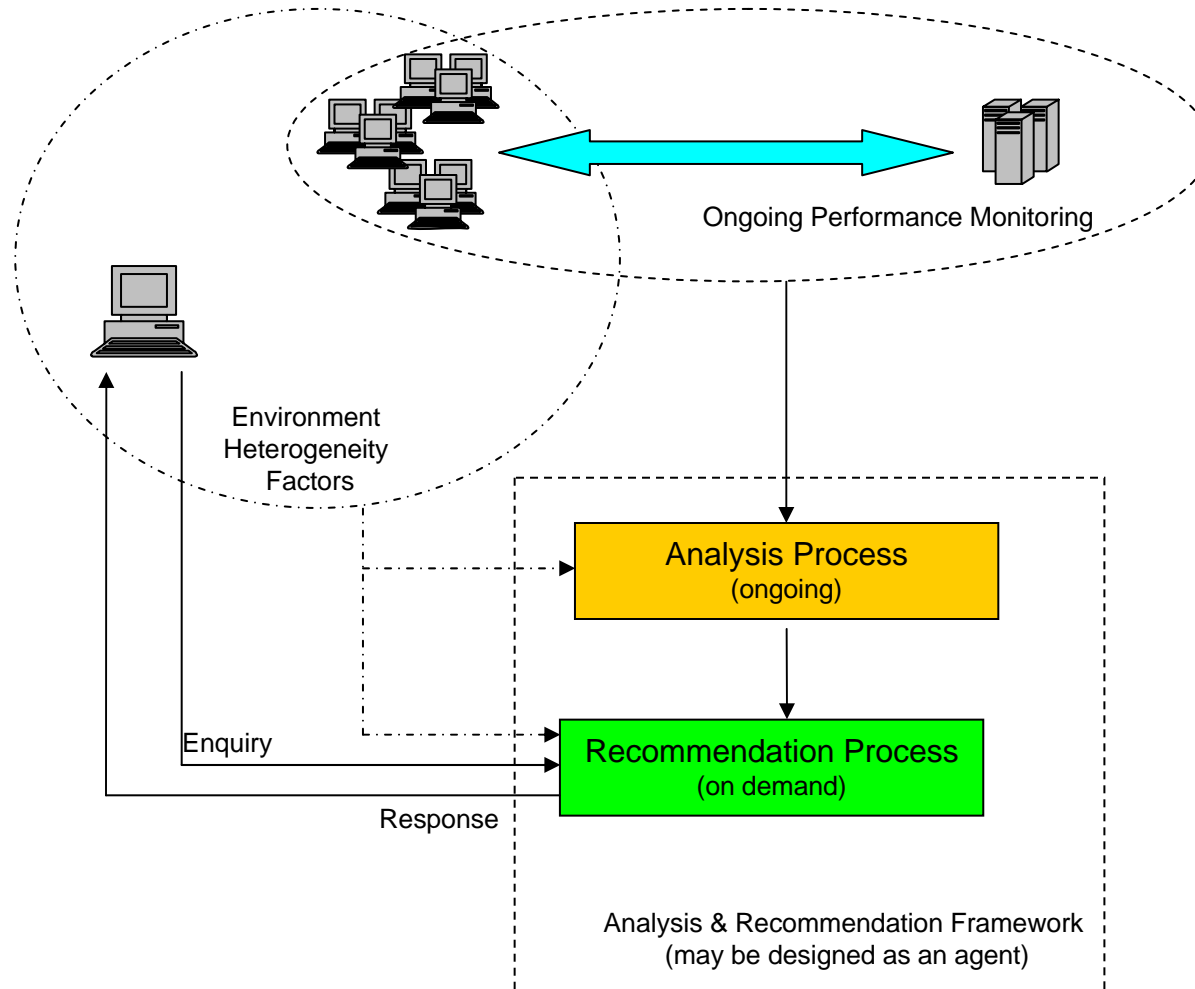
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<AYPY>
<1>Moresby</1>
<2>Papua New Guinea</2>
<3>-09.26</3>
<4>147.13</4>
<5>Moresby, Papua New Guinea</5>
<6>Sep 08, 2005 - 07:00 PM EDT</6>
<7>from the SE (140 degrees) at 15 MPH (13 KT)</7>
<8>greater than 7 mile(s)</8>
<9>mostly cloudy</9>
<10>78 F (26 C)</10>
<11>68 F (20 C)</11>
<12>69%</12>
<13>29.85 in. Hg (1011 hPa)</13>
<14>AYPY 082300Z 14013KT 9999 FEW018 BKN040 BKN140 26/20 Q1011</14>
</AYPY>
    
```

```

<AYPY>
<1 Location>Moresby, Papua New Guinea</1 Location>
<2 Humidity>69%</2 Humidity>
<3 Pressure>29.85 in. Hg (1011 hPa)</3 Pressure>
<4 Sky>mostly cloudy</4 Sky>
<5 Temperature>78 F (26 C)</5 Temperature>
<6 Visibility>greater than 7 mile(s)</6 Visibility>
<7 Wind>from the SE (140 degrees) at 15 MPH (13 KT)
</7 Wind>
</AYPY>
    
```

Performance-based Web service recommendation





The University of Melbourne >

For more information visit the Agentlab Web site at:

<http://www.cs.mu.oz.au/agentlab/>

Or contact:

Steve Goschnick – stevenbg@unimelb.edu.au

Kuldar Taveter – kuldar@cs.mu.oz.au

Niko Thio – nthio@cs.mu.oz.au