



Zavod za telekomunikacije

Incorporating a weather service in WAP.HR

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- ◆ WAP.HR and its content
- ◆ New service integrated in WAP.HR
- ◆ Weather service
 - < Source of information
 - < Design
 - < Implementation
 - < Presentation

What is WAP.HR

- ◆ WAP.HR is an information service recently grown out of CARNet's project WWW.HR
- ◆ Provides general information about Croatia, in form of a subset of WWW.HR made suitable for Wireless Application Protocol (WAP) enabled devices



WAP.HR

- ◆ WAP.HR categories are:

- < Nature
- < Important Telephone Numbers
- < Politics
- < Sports
- < **Current Weather**
- < Internet
- < Tourism
- < Croatian Cities
- < VIPNet Telephone Book
- < HT Telephone Book

Information about weather in Croatian towns that are linked to *WAP.weatheronline.co.uk*.

Weather service in WAP.HR

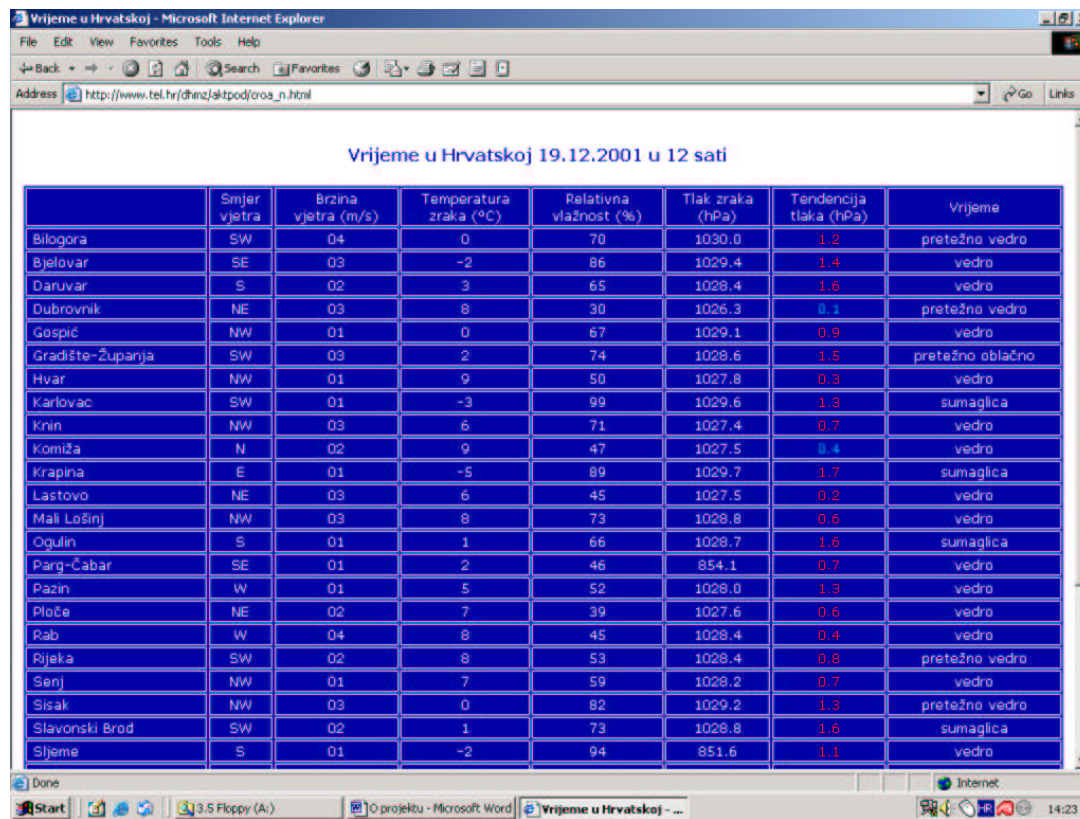
- ◆ Goal was to create a simple WAP based user-friendly service that would provide information about current weather in Croatian cities in addition to static content previously served.
- ◆ To obtain current meteorological data, our service periodically scans the Meteorological and Hydrological Service Internet pages of Croatian State Meteorological Institution (DHMZ, Državni hidrometeorološki zavod) and collects up-to-date weather information.

Source of information (1)

- ◆ Meteorological and Hydrological Service
 - Internet pages
 - < Owner: Croatian State Meteorological Institution (DHMZ, Državni hidrometeorološki zavod)
 - < URL address: <http://vrijeme.hr/>
 - < Selection criteria:
 - = Precise and
 - = Reliable information about weather in Croatia

Source of information (2)

- ◆ Content of *croa_n.html* document is presented in HTML format with table



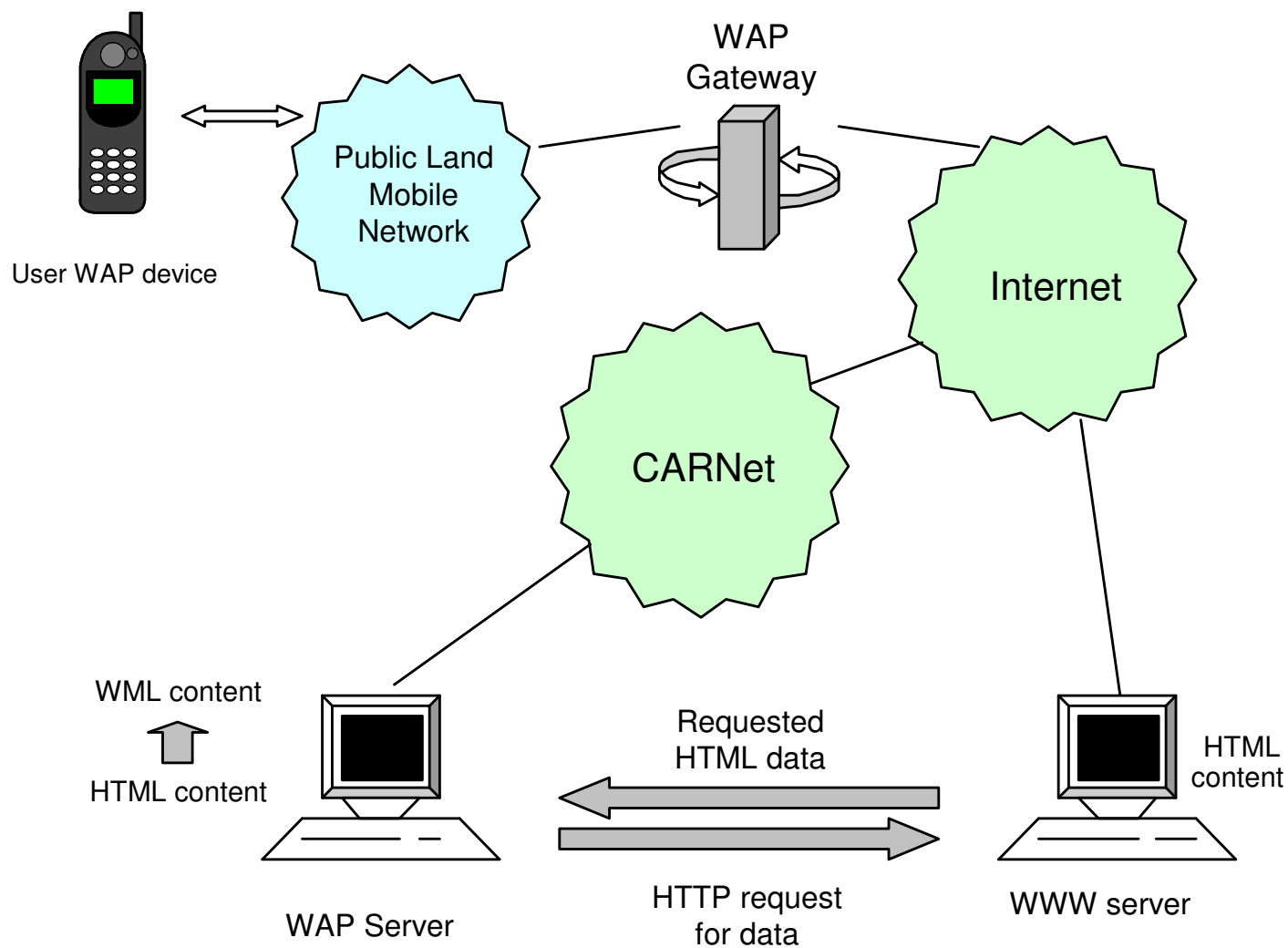
Vrijeme u Hrvatskoj 19.12.2001 u 12 sati

	Smjer vjetra	Brzina vjetra (m/s)	Temperatura zraka (°C)	Relativna vlažnost (%)	Tlak zraka (hPa)	Tendencija tlaka (hPa)	Vrijeme
Bilogora	SW	04	0	70	1030.0	1.2	pretežno vedro
Bjelovar	SE	03	-2	86	1029.4	1.4	vedro
Daruvar	S	02	3	65	1028.4	1.6	vedro
Dubrovnik	NE	03	8	30	1026.3	0.1	pretežno vedro
Gospić	NW	01	0	67	1029.1	0.9	vedro
Gradište-Županja	SW	03	2	74	1028.6	1.5	pretežno oblačno
Hvar	NW	01	9	50	1027.8	0.3	vedro
Karlovac	SW	01	-3	99	1029.6	1.3	sumaglica
Knin	NW	03	6	71	1027.4	0.7	vedro
Komiža	N	02	9	47	1027.5	0.4	vedro
Krapina	E	01	-5	89	1029.7	1.7	sumaglica
Lastovo	NE	03	6	45	1027.5	0.2	vedro
Mali Lošinj	NW	03	8	73	1028.8	0.6	vedro
Ogulin	S	01	1	66	1028.7	1.6	sumaglica
Parg-Čabar	SE	01	2	46	854.1	0.7	vedro
Pazin	W	01	5	52	1028.0	1.3	vedro
Ploče	NE	02	7	39	1027.6	0.6	vedro
Rab	W	04	8	45	1028.4	0.4	vedro
Rijeka	SW	02	8	53	1028.4	0.8	pretežno vedro
Senj	NW	01	7	59	1028.2	0.7	vedro
Sisak	NW	03	0	82	1029.2	1.3	pretežno vedro
Slavonski Brod	SW	02	1	73	1028.8	1.6	sumaglica
Sljeme	S	01	-2	94	851.6	1.1	vedro

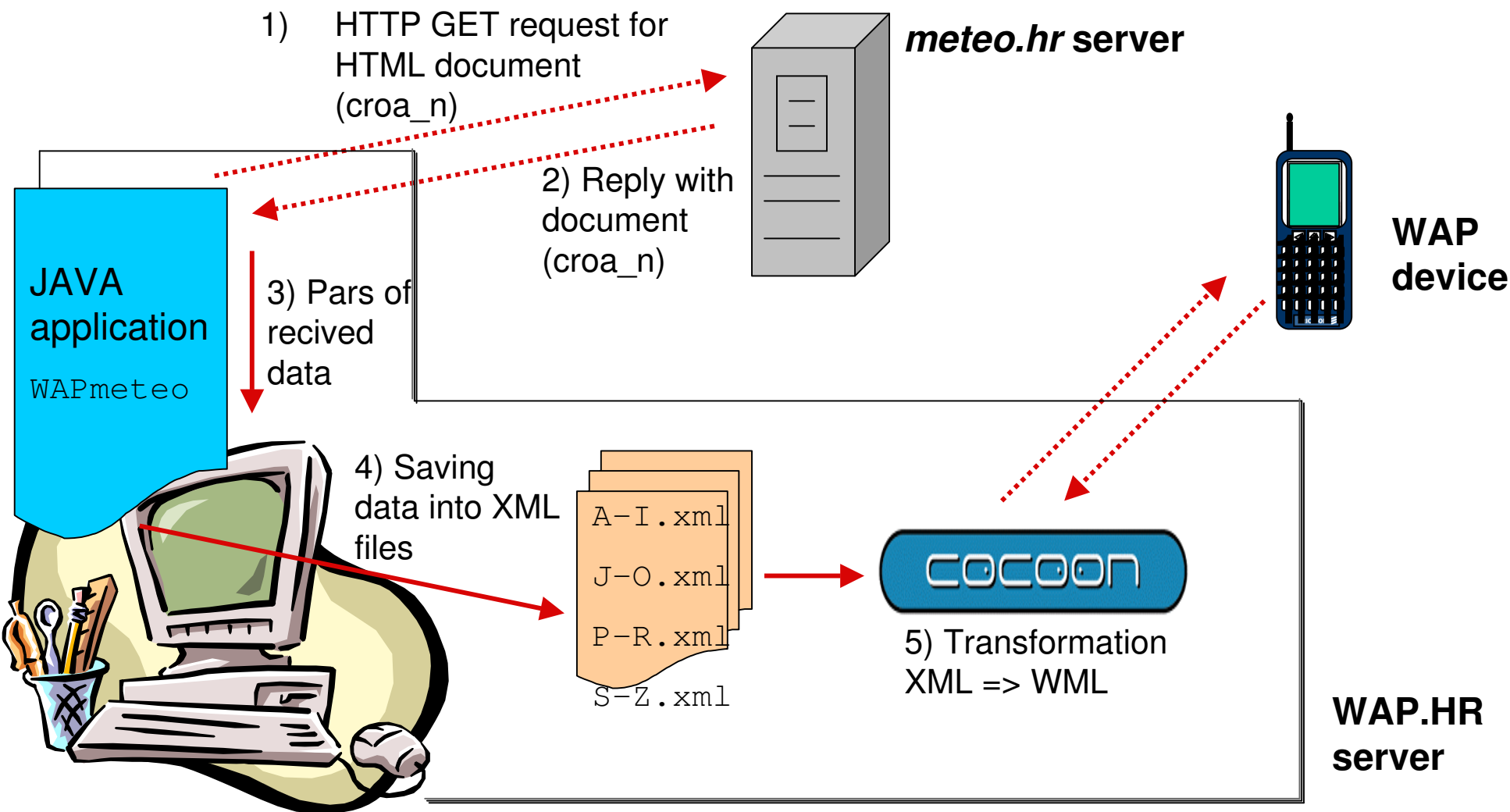
Format podataka

- ◆ For every Croatian city the following data can be found:
 - < Wind direction
 - < Wind velocity (m/s)
 - < Air temperature (°C)
 - < Relative humidity (%)
 - < Atmospheric pressure (hPa)
 - < Pressure tendency (hPa)
 - < Weather conditions

Design of weather service



How it works



Service development

- ◆ The Java programming language was used to assure the service portability on a wide range of platforms (UNIX, Linux, and Windows)
- ◆ Service scans the Meteorological and Hydrological Service Internet pages of Croatian State Meteorological Institution (DHMZ, Državni hidrometeorološki zavod) every 2 hours
- ◆ Information are transformed into suitable format, and seamlessly incorporated in WAP.HR

Data transformation (1)

- ◆ Receiving data in HTML format
- ◆ Received data are parsed
- ◆ Parsed data are saved in XML format that enables simple access and overview of them
- ◆ XSL style sheets are used for transformation
- ◆ Cocoon servlet technology is used to enable the transformation
- ◆ On user request files are transformed from XML to WML

Data transformation (2)

- Less powerful CPUs,
- Less memory (ROM and RAM),
- Restricted power consumption,
- Smaller displays, and
- Different input devices (e.g., a phone keypad).



- ◆ WML files are accessible from WAP enabled mobile phones
- ◆ WML files have “Deck of Cards” structure

- Main page
 - Time of last data update
 - Menu in which the first letter of city can be chosen



Content presentation

- Catalog menu with the names of cities beginning with the chosen letter
- After the town is selected weather information for named town is shown



Achievement

- ◆ New feature is added to WAP.HR
- ◆ Simple WAP based user-friendly service that enable WAP.HR users to get most recent information about weather in Croatia
- ◆ Precise and reliable information about weather in Croatia
- ◆ Faster access to the service