

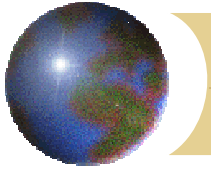
# A SYSTEM FOR DELIVERING CLINICAL LABORATORY RESULTS BY E-MAIL

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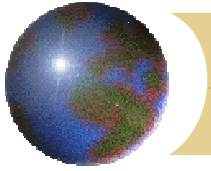
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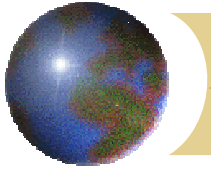
# E-mail technology applied to healthcare industry

- communication between **physicians and patients** (making appointments, demands for recipes, dissolving acute and chronic problems)
- demands for laboratory tests from **indoor and outdoor physicians** to the **laboratory**
- communication between **patients and laboratory**



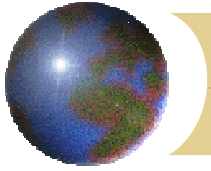
## Proofs for necessity of using e-mail communications in health purpose

- **CyberAtlas** - 34 million people a year visit more than 20 000 healthcare-oriented Internet sites
- **CyberDialogue** - 45% consumers interested in contacting their clinicians by email (June 2001)
- **LabTest** - 82% consumers agree to see their lab results by the Internet



# Advantages

- ⊕ fast, cheap and frequently accessible feature
- ⊕ for patients:
  - ⊞ they do not need to wait or to come again to the laboratory for their results
- ⊕ for physicians:
  - ⊞ doctors can have patients lab results available as soon as possible
  - ⊞ results can easily be integrated into patients electronic medical record

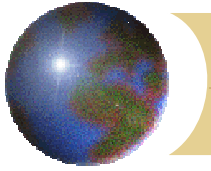


# Pilot project

## ✚ idea:

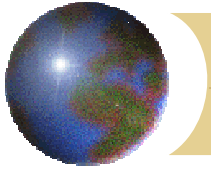
- ✚ develop a system for sending results of serum biochemical analyses, urine biochemical and microscopic analyses, and haematological and coagulation analyses to all our **outdoors** consumers with a valid e-mail address

✚ **started**: October 1<sup>st</sup>, 2001



# Advertising

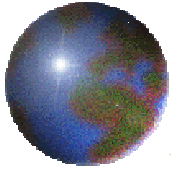
- ⊕ all around the hospital were consumers are passing
- ⊕ particularly on laboratory reception desk
- ⊕ news papers
- ⊕ web pages ([www.kbd.hr/lab](http://www.kbd.hr/lab))



# Consumers obligation

✚ fill out a form:

<b>General data</b>	Name and Surname:	
	Date of birth:	Phone:
	Address:	
<b>Results delivery</b> Round up which way you would like your lab results to be sent. Please, write e-mail address <b>EXTREMELY LEGIBLY.</b>	a	to me personally on e-mail address:
	b	to my physician, dr. _____, on e-mail address:
Date:	Signature:	



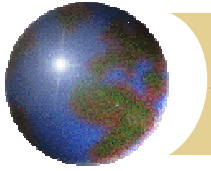
# Lab report

Name and Surname: Mladen Petrovečki	Date of analyses: 30. 10. 2001.
Laboratory report number: 311	E-mail address: mp@kbd.hr

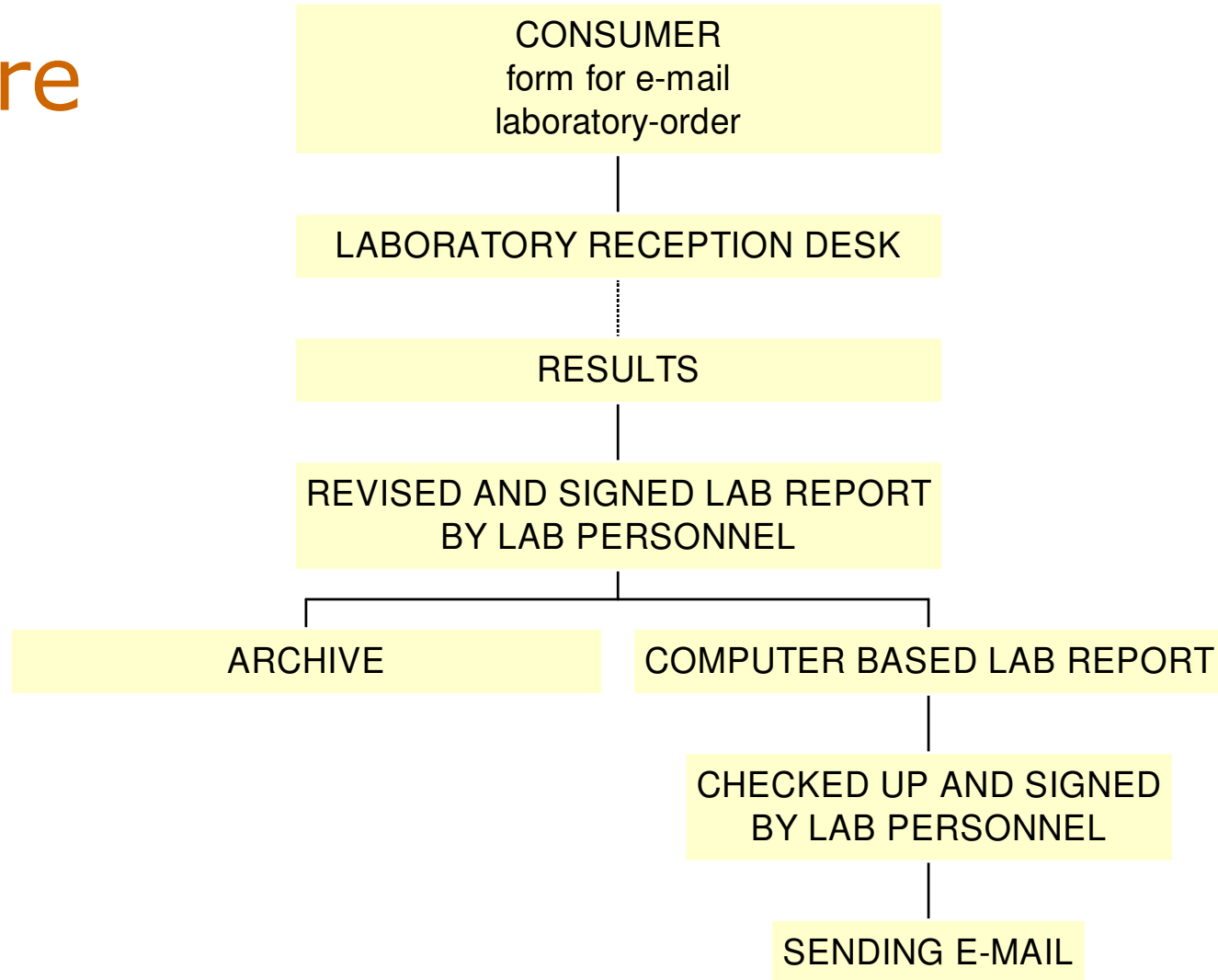
Biochemical analyses			Number of record: 31733	
Approved by: doc. dr. sc. Željko Romić				
Tests	Units	Sample	Result	Normal range
Glucose	mmol/L	S	4,1	3,6-5,6
Amoniac	μmol/L	P	50	32-57
Acidum uricum	μmol/L	S	400	M 120-420 F 90-300
Glycosilated haemoglobin	%	B	5,3	4,6-6,6

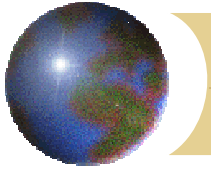
Sample **B**-blood, **P**-plasma, **S**-serum, **U**-urine, **dU**-24 hour urine  
**M**-male, **F**-female





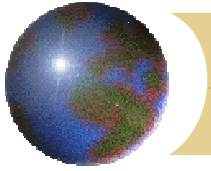
# Procedure





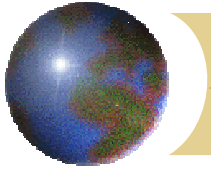
## Features for fully safe and secure sending lab results

- ✚ results data sent as attachment (PDF)
- ✚ lab report saved in standard secure form (allowing the recipient only printing the document)
- ✚ return receipt request



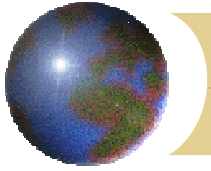
# Results

- ⊕ in one year time we have 8215 outdoor consumers
  - ⊕ 100 laboratory results sent (1,22%)
- ⊕ one exception
- ⊕ network: two doctors



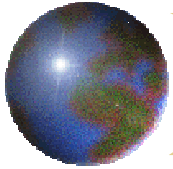
## Disadvantages

- ❖ malicious computer expert can bypass security measure and alter the results of tests
- ❖ there could be certain periods of time when Internet access would not be available



## Plans for the future

- ⊕ inform the physicians who gravitated to our hospital
- ⊕ hospital informatisation



**Klinički laboratorij KBD  
nalazi e-poštom**

