



The "Internet Revolution" in Belgrade

THE INTERNET REVOLUTION

www.wired.com 5.04/belgrade

Serbian students and protesters call their revolt the Internet Revolution. For the first time, the Net is playing a crucial role in a popular uprising against an authoritarian régime. By David S. Bennahum

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Photographs by Art Zamur

In May 1992, the UN Security Council imposed sanctions on the Federal Republic of Yugoslavia (federation of Serbia and Montenegro), *de facto* led by Serbian president Slobodan Milošević, for actively supporting the escalation of the conflict in Bosnia and Herzegovina.



Determining that the situation in Bosnia and Herzegovina and in other parts of the former Socialist Federal Republic of Yugoslavia constitutes a threat to international peace and security,

Acting under Chapter VII of the Charter,

3. *Decides* that all States shall adopt the measures set out below, which shall apply until the Council decides that the authorities in the Federal Republic of Yugoslavia (Serbia and Montenegro), including the Yugoslav People's Army, have taken effective measures to fulfil the requirements of resolution 752 (1992);

4. *Decides also* that all States shall prevent:

(c) Suspend scientific and technical cooperation and cultural exchanges and visits involving persons or groups officially sponsored by or representing the Federal Republic of Yugoslavia (Serbia and Montenegro);

**These comprehensive sanctions
banned academic cooperation and
the provision of commercial services,
including Internet services.**

**Only PTT traffic was exempt from the
sanctions, which included the costly
and slow X.25 exchange.**

Date: Wed, 3 Jun 92 09:57:26 CDT
From: Wilfried Maschtera <Maschtera@EDVZ.UNI-LINZ.AC.AT>
Reply-To: EARN Board of Directors <EARN-BOD@IRLEARN>
Subject: Deactivation of line to Belgrade
To: Yagos Puric <xpmfd01@yubgss21>,
Svetozar Niketic <xpmfh01@yubgss21>

Dear Jagos and Svetozar,

on June, 2nd 1992 Mr. Axmann from the Ministry for Science and Research called the head of our computing center, Mr. Valach and informed him on the following:

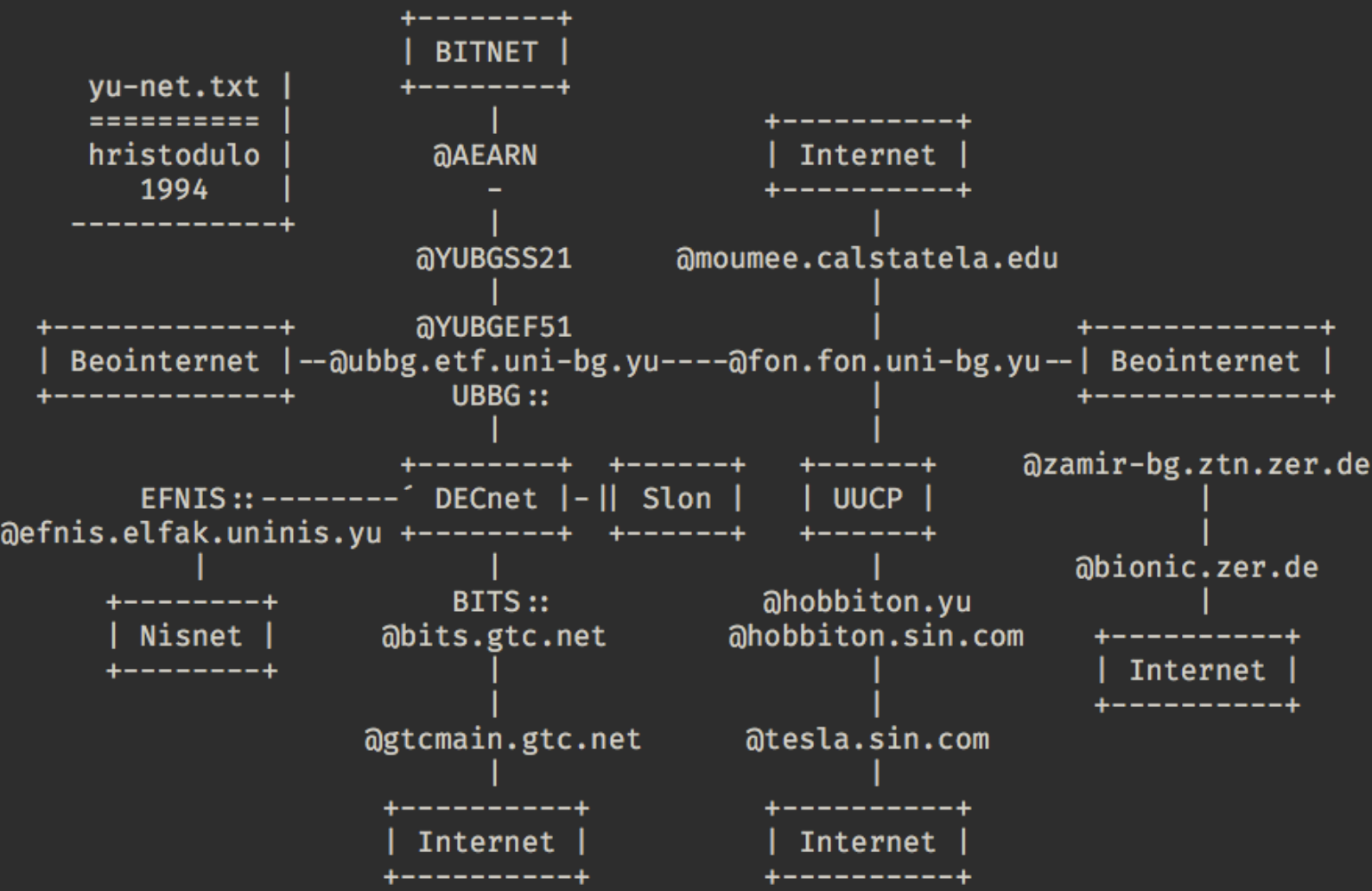
On June, 2nd the Austrian government decided to follow UN resolutions 752 and 757 and to suspend the scientific, technological and cultural cooperation with Yugoslavia (Serbia and Montenegro). As a consequence the Computing Center of the University of Linz has to deactivate the line to Belgrade.

This decision was confirmed when I phoned with Mr. Axmann. On June 3rd I informed the Austrian EARN Director, Prof. Schulz. He gave me the order to follow the directive and to deactivate the line.

I do not agree with this decision but I have to comply with it. Therefore the line will be deactivated temporarily on June 3rd, 4 o'clock pm (16.00). Please note that we do not cancel the line itself. All files destined for a location in Yugoslavia will be saved.

I regret this decision but I ask you to understand that I have to follow this order. We all hope that we can resume the transfer and our good cooperation shortly.

Kind Regards / Wilfried



Since 1992, Serbia's academic network has grown in terms of TCP/IP hosts and connections, but it lacked proper internet connectivity (as did the rest of the country).

There were only a few tiny windows for "smuggling" e-mail through the X.25-based Yugoslav Packet Switching Network (JUPAK).



This exchange was made possible by the Serbian academic diaspora in the West.

From: sii@moumee.calstatela.edu
Date: Wed, 7 Apr 1993 16:33:00 -0700
Subject: E-mail veza sa YU

SRPSKA INFORMATIVNA INICIJATIVA / SERBIAN INFORMATION INITIATIVE

Postovane kolege i prijatelji,

zadovoljstvo nam je da vas obavestimo da sada mozete primati i slati elektronsku postu vasim prijateljima u zemlji!

Adrese za slanje poste u zemlju su sledece:

FON: boza%fon.uucp@moumee.calstatela.edu
UBBG: boza%ubbg%fon.uucp@moumee.calstatela.edu
BUEF78: boza%buef78%fon.uucp@moumee.calstatela.edu
YUBGSS21: boza%yubgss21%fon.uucp@moumee.calstatela.edu

Adrese na koje vasi prijatelji mogu da salju postu u svet su sledece:

FON: boza@plains.nodak.edu
UBBG: IN%"boza%plains.nodak.edu@fon"
buef78: UBBG::IN%"boza%plains.nodak.edu@fon"
YUBGSS21: boza%plains.nodak.edu%fon@yubgef51.bitnet

U gornjim adresama ime boza zamenite sa odgovarajucim username, a plains.nodak.edu zamenite sa imenom vase masine. (U svakom slucaju nemojte slati mail na navedene adrese.)

From: sii@moumee.calstatela.edu
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Adrese za slanje poste u zemlju su sledece:

FON: boza%fon.uucp@moumee.calstatela.edu
UBBG: boza%ubbg%fon.uucp@moumee.calstatela.edu
BUEF78: boza%buef78%fon.uucp@moumee.calstatela.edu
YUBGSS21: boza%yubgss21%fon.uucp@moumee.calstatela.edu

Adrese na koje vasi prijatelji mogu da salju postu u svet su sledece:

FON: boza@plains.nodak.edu
UBBG: IN%"boza%plains.nodak.edu@fon"
buef78: UBBG:: IN%"boza%plains.nodak.edu@fon"
YUBGSS21: boza%plains.nodak.edu%fon@yubgef51.bitnet

U gornjim adresama ime boza zamenite sa odgovarajucim username, a plains.nodak.edu zamenite sa imenom vase masine. (U svakom slucaju nemojte slati mail na navedene adrese.)

**Sanctions were lifted at the end of 1995,
following the signing of the Dayton Peace Agreement,
which brought the Bosnian war to an end.**



Around the same time, the independent Radio B92 established a 28 Kbps leased line with the Dutch ISP XS4ALL.

On the Belgrade side, a computer classroom known as OpenNet was established in the American Corner of the Belgrade Youth Center.





**Less than two months later,
on February 27, 1996 (Belgrade University Day),
the academic network was connected to the internet
through a tiny 64 Kbps VSAT link provided by
BeoTel ISP and Taide Networks in Norway.**

In the summer and fall of 1996, the first commercial internet service providers – [EUnet Yugoslavia](#) and [BeoTel](#) – began offering services to citizens.



Internet was sold by the hour and cost around 55 Deutsche Marks for 20 hours.

(it was very expensive – average monthly wage at that time was around 200 DM)

Access was via modems and dial-up, the operating system was mostly

Windows 95 (although I used Linux and X Windows at the time),

and Netscape Navigator ruled the web.

It was three years after the NCSA web server and Mosaic web browser were

released, and a year after the IMG tag was added to the HTML standard.

Microsoft®



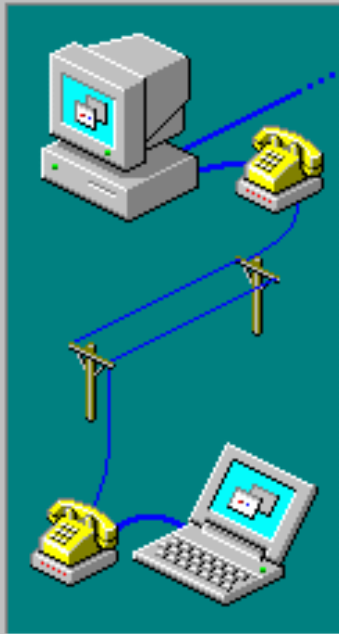
Microsoft
Windows® 95



Untitled - Notepad

File Edit Search Help

Welcome to Dial-Up Networking



Dial-Up Networking enables you to connect one computer to another computer and to the network by using a modem.

< Back Next > Cancel

MS-DOS Prom

Auto

Microsoft(R) Win
(C) Copyright
C:\WINDOWS>_



Untitled - Notepad

MS-DOS Prompt

3:07 PM



Location: about

[What's New!](#) [What's Cool!](#) [Handbook](#) [Net Search](#) [Net Directory](#) [Software](#)

NETSCAPE

Netscape Navigator Gold (TM)

Version 2.02Gold

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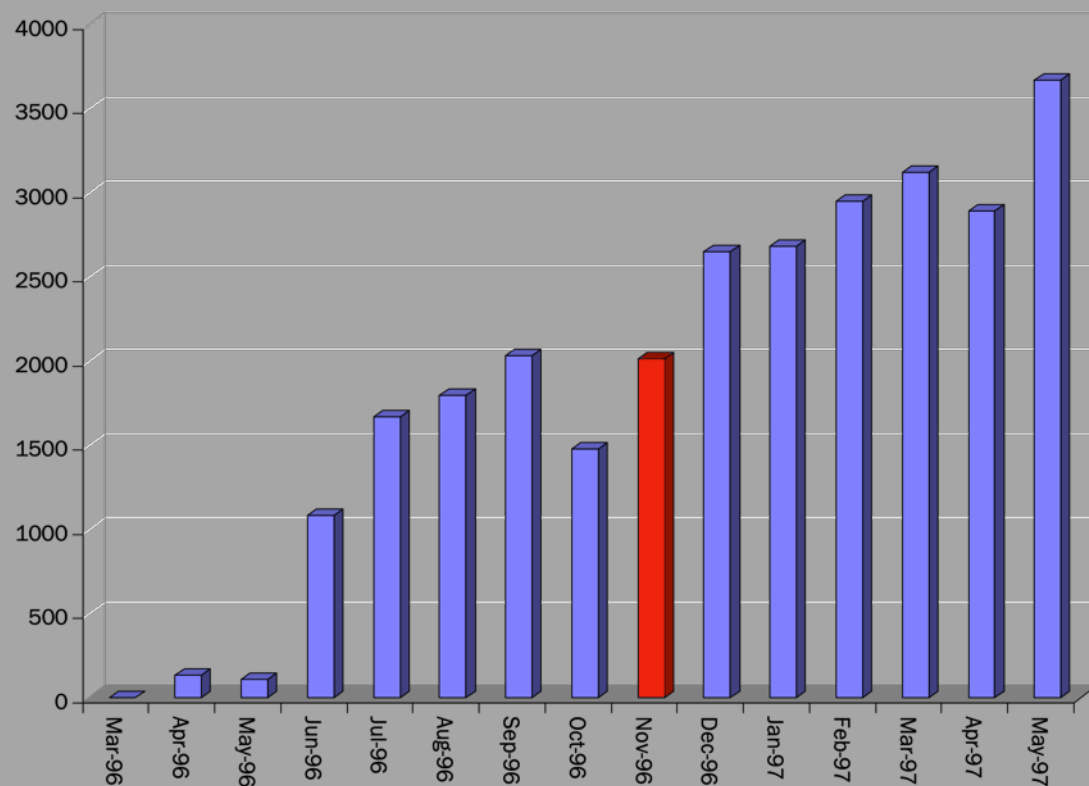
This version supports International security with RSA Public Key Cryptography, MD2, MD5, RC4.

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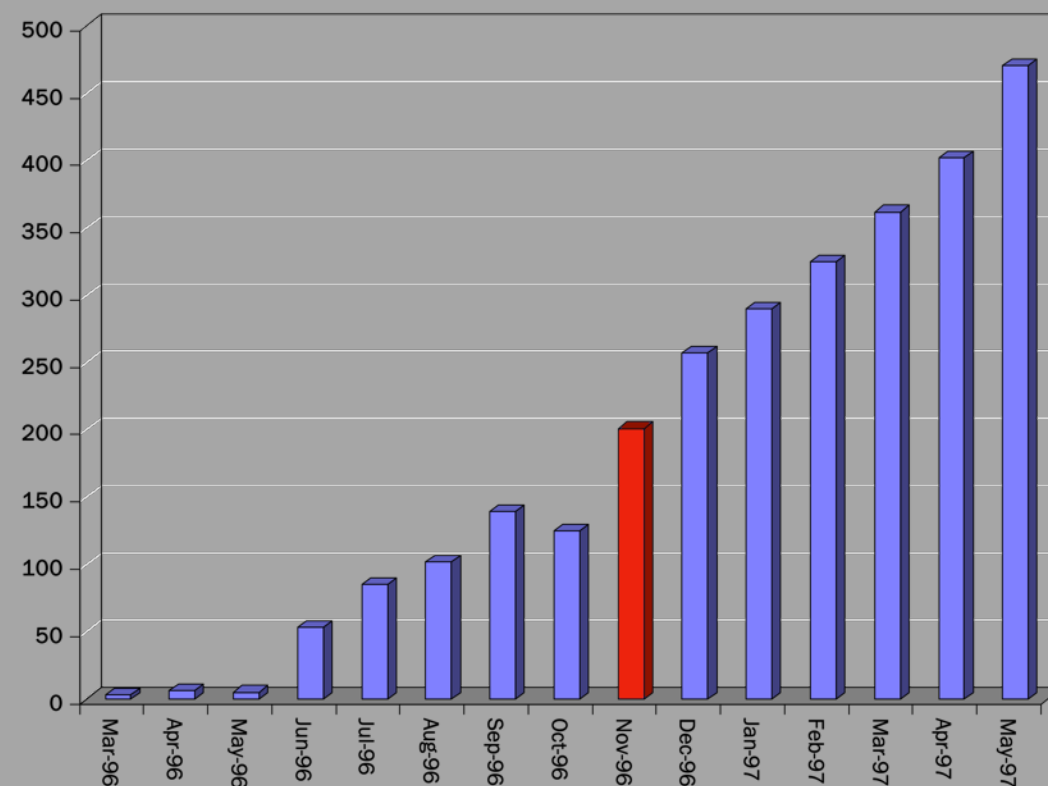
...and this!



**By November 1996, Serbian internet landscape looked like this:
we had around 2.000 hosts, 200 .yu domains and less than 10.000 internet users.**



Number of hosts



Number of domains



On November 17, only a few months after the internet's big debut in Serbia, the second round of municipal elections were held.

The pro-democratic opposition won in all major cities, including Belgrade, Niš, Novi Sad and Kragujevac.

Milošević's regime refused to recognize the results, sparking the first civil protests in Niš on November 19.

The following day, massive protests erupted across Serbia.



The students' protest began on November 22, 1996, and lasted for almost **4 months**, until March 19, 1997, when all students' demands were met:

1. Recognition of municipal election results
2. Resignation of the Chancellor and Student-Vice-Chancellor of Belgrade University



The story of the “Internet revolution in Belgrade” began on November 26, the fourth day of the protest, when the account “protest96” was created on the student server “[Galeb](#)” (Seagull, named after admin’s favorite chocolate brand) at the Belgrade School of Electrical Engineering ([ETF](#)).

<http://galeb.etf.bg.ac.yu/~protest96/>

Nenad Mitovski, writer of the protest newsletter "Resistor",

recounts that [Dragan Večerina](#),

administrator of Galeb

(*which was also one of the very*

first Linux servers in Serbia)

opened the account after receiving

consent from [Srbijanka Turajlić](#),

professor and head of the ETF

computer center.

```
elektronsko izdanje
UUUUU  UUUUUUU  UUUUUU  UUUUU  UUUUUUU  U  U UU  U  U
U  U  U  U  U  U  U  U  U  UU  U  U  U  U
S U  U  U  U  U  U  U  U  U  UU  U  U  U  U
-\-  U  U  U  UUUUUU  U  U  UUUUUU  U  U  U  UU
ETF  U  U  U  U  U  U  U  U  U  U  U  U  U  U
U  U  U  U  U  U  U  U  U  UU  U  U  U  U
UUUUU  U  U  UUUUU  U  U  U  UU  U  U
```

þ STUDENTSKA UNIJA ETF-A þ IZLAZI POVREMENO þ 18. XII 1996. þ BROJ 1 þ

Tog 26. novembra se Protest još uvek zahuktavao i neke važne stvari je tek trebalo napraviti, među njima i kontakt sa svetom preko Interneta, web prezentaciju, mailing listu. Za sve to je bio neophodan nalog na nekom računaru na akademskoj mreži, a naš ponos je nametao zahtev da se taj nalog nalazi na ETF-u – naravno, na Galebu, ljubimcu studenata ETF-a. Kolege sa Filološkog fakulteta su već imale spremne prevode najvažnijih tekstova na razne svetske jezike i morali smo brzo da reagujemo. Doduše, malo dodatnog vremena nam je dala okolnost da su tekstove odštampali i doneli na papiru, pa ih je trebalo ponovo prekucati. Na osnovu informacija koje smo dobili u Računskom centru, za otvaranje naloga je bilo neophodno odobrenje Dragana Sretenovića ili Srbijanke Turajlić. Frle (Sretenović) je, kako smo saznali, otišao na ručak, što je značilo da je neizvesno kada će se vratiti, a profesorku Turajlić smo potražili kod dekana...

"Pa taj računar je namenjen studentima! Zašto nalog nije otvoren!?" – reagovala je, odmah pozvala RC i, uz odobravanje dekana Borivoja Lazića i prisutnih profesora, rekla Večerini da otvori nalog.



**Metropol
RIPE 85**

**ETF
computer
center**

**Tech
Students'
Club
(KST)**

**School of
Electrical
Engineering
(ETF)**



The following day, on November 27, the authorities shut down Radio B92 – the most prominent independent radio station in Serbia.

The official explanation given by the regime was that water had entered the coaxial cable connecting broadcasting equipment to the antenna, an episode that became infamous as the

“water in the coaxial cable” incident

After the coaxial cable “dried”, the regime continued to actively jam Radio B92's frequencies.

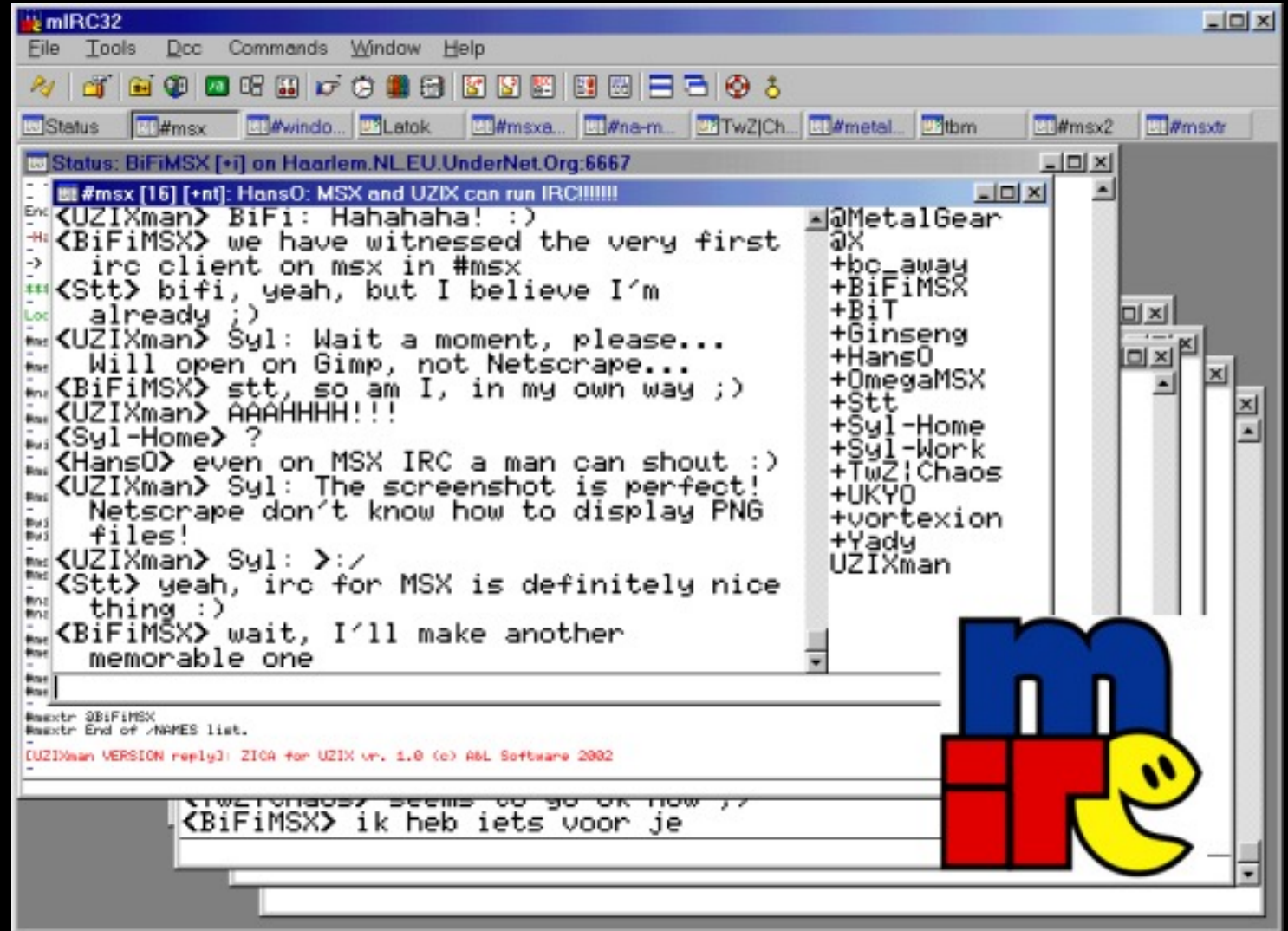
On December 5, B92 [began streaming](#) its program via RealAudio, using the link to XS4ALL.



At the same time, students from other faculties began to create protest websites.

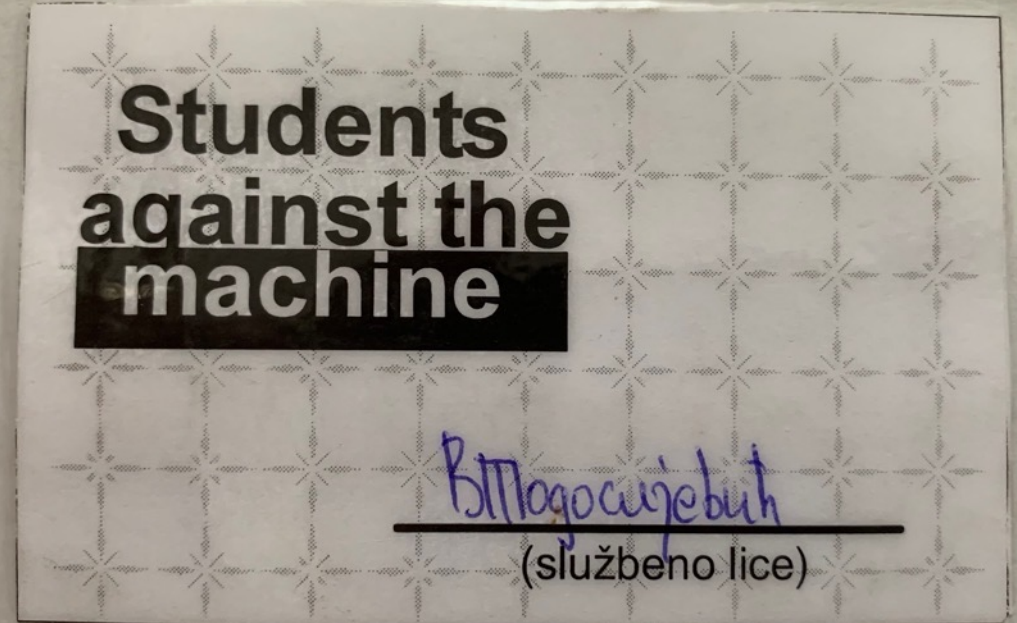
I was a member of the team that created the protest website for the Faculty of Philosophy.

These teams communicated on IRC every day – mIRC client was popular at the time.



We soon realized that duplicating efforts was pointless.

Around the New Year, protest web teams from several faculties gathered on the ETF to establish the unified Students' Protest Web Team.



The Web Team was located in ETF basement Room 33, down the corridor of the famous Tech Students' Club (KST).



This gave us great music in the evenings and direct access to student parties, which was incredibly convenient.

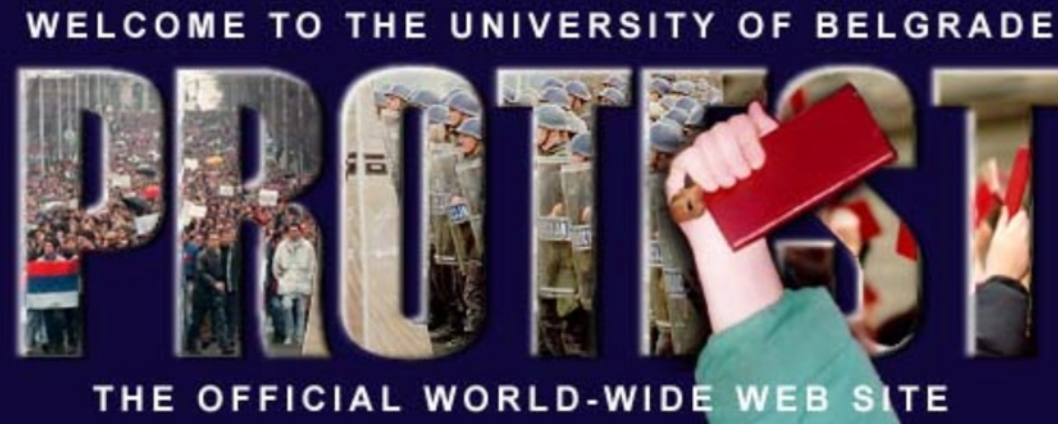


At the end of January, a brand-new Students' Protest Website, on which I worked, was unveiled.

Fortunately, it has survived to the present day thanks to Yurope.com and Archive.org

The site's primary color was deep blue, the same as the police cordons that prevented student walks (we called it “cordon blue”),

and the text was the color of egg yolk, which was occasionally thrown at cops.



Feel the spirit of Belgrade! Make the NOISE!

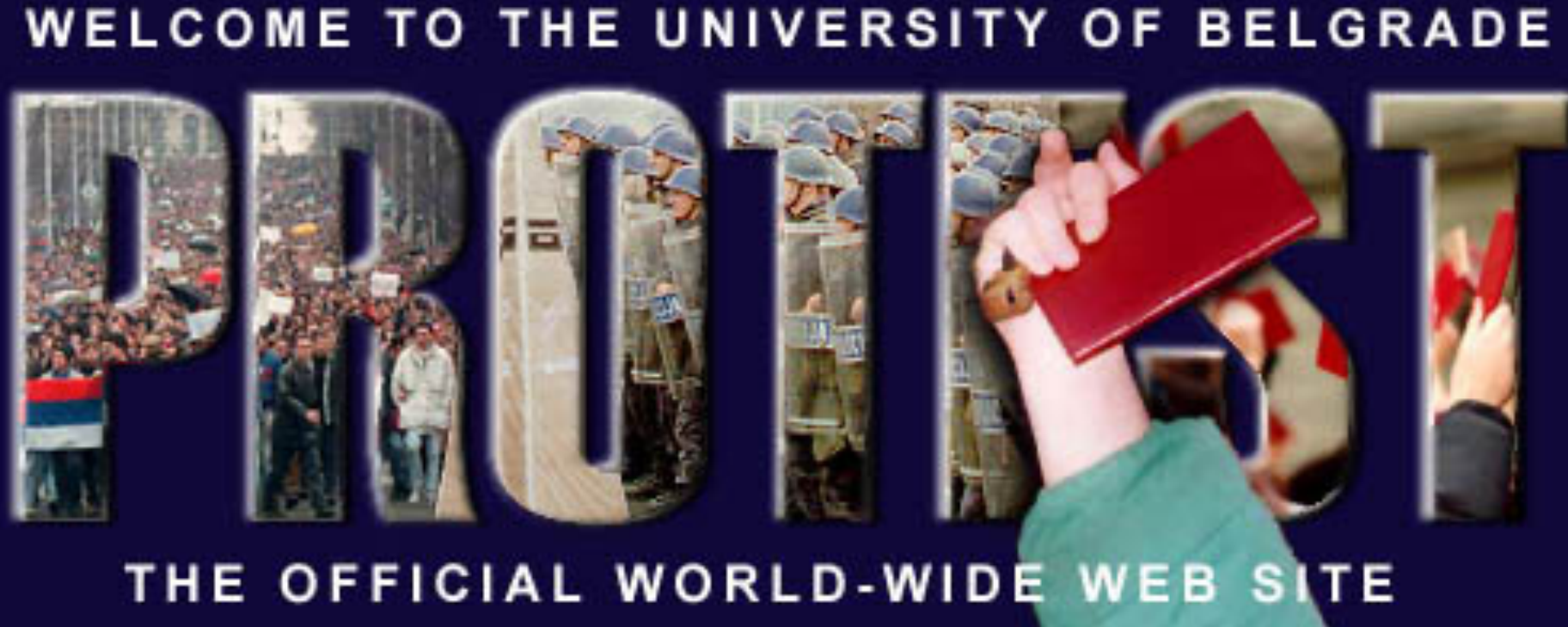
— [Mirrors](#) — [Intro](#) — [Support](#) — [Articles](#) — [Images](#) — [Archive](#) — [Links](#) —

On Wednesday, the 5th March, the members of the Initiative and Main Board of the Student Protest managed to enter the building where the Chancellor's office is. Most of them entered through a window, whereas a smaller group got in through a passage between that building and the School of Philosophy. Still in the building, they have the attention of remaining there until the Chancellor resigns.

As long as this situation is taking place in Belgrade, on this page you will be able to find the latest news about the happenings here, so reload this page often.

Latest Events	Updated
Education Minister Threatens to Stop University Funding	10.03.1997 (22:35 GMT)
University President Lacks Credibility Among Students	09.03.1997 (18:35 GMT)
Demand For Government Dismissal	09.03.1997 (18:25 GMT)
107th Students' Protest Walk	08.03.1997 (23:50 GMT)

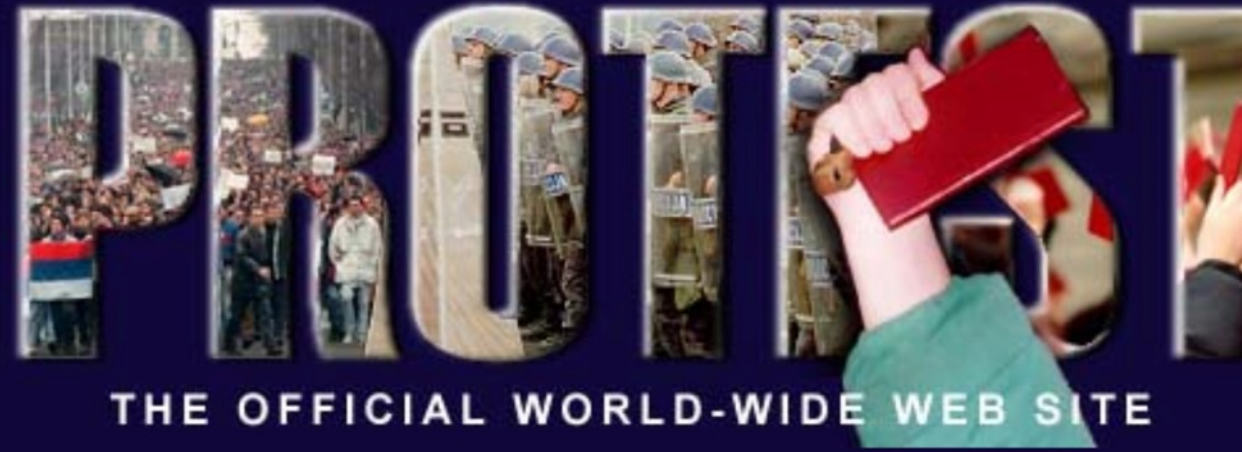
Originally, the site had an “indecent” banner...



...but after some professors objected,

I had to bend the middle finger in Photoshop.

WELCOME TO THE UNIVERSITY OF BELGRADE



THE OFFICIAL WORLD-WIDE WEB SITE

Feel the spirit of Belgrade! Make the NOISE!

— [Mirrors](#) — [Intro](#) — [Support](#) — [Articles](#) — [Images](#) — [Arc](#)

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Interactivity on webpages was provided by Java Applets. There was no CSS at the time

(the first version of the standard was published in December 1996)

and JavaScript was not very capable either.

(the first version was released a year earlier)

I recorded my whistle and incorporated it into

a Java Applet for the main menu, allowing

visitors to make the **NOISE!** and experience

the mood of Belgrade.

In keeping with the times, I also converted the omnipresent Netscape download icon into a Democracy Now icon.



The site quickly gained prominence, carrying important protest [news](#) and [photos](#).
It was featured by international news organizations such as CNN and the BBC.

We also had the obligatory **surfer counter** in the footer!

[Mirrors](#) | [Intro](#) | [Support](#) | [Articles](#) | [Images](#) | [Archive](#) | [Links](#)

Stop Aids!
Anti-Aids Campaign



Free Speech Online
Blue Ribbon Campaign

You are one of at least **58635** surfers that are interested in our protest.



protest96@galeb.etf.bg.ac.yu



POOPOOPICTURES

Fax: 0181-341 5203

PAGE 1 of 2

TO THE STUDENTS OF SERBIA —

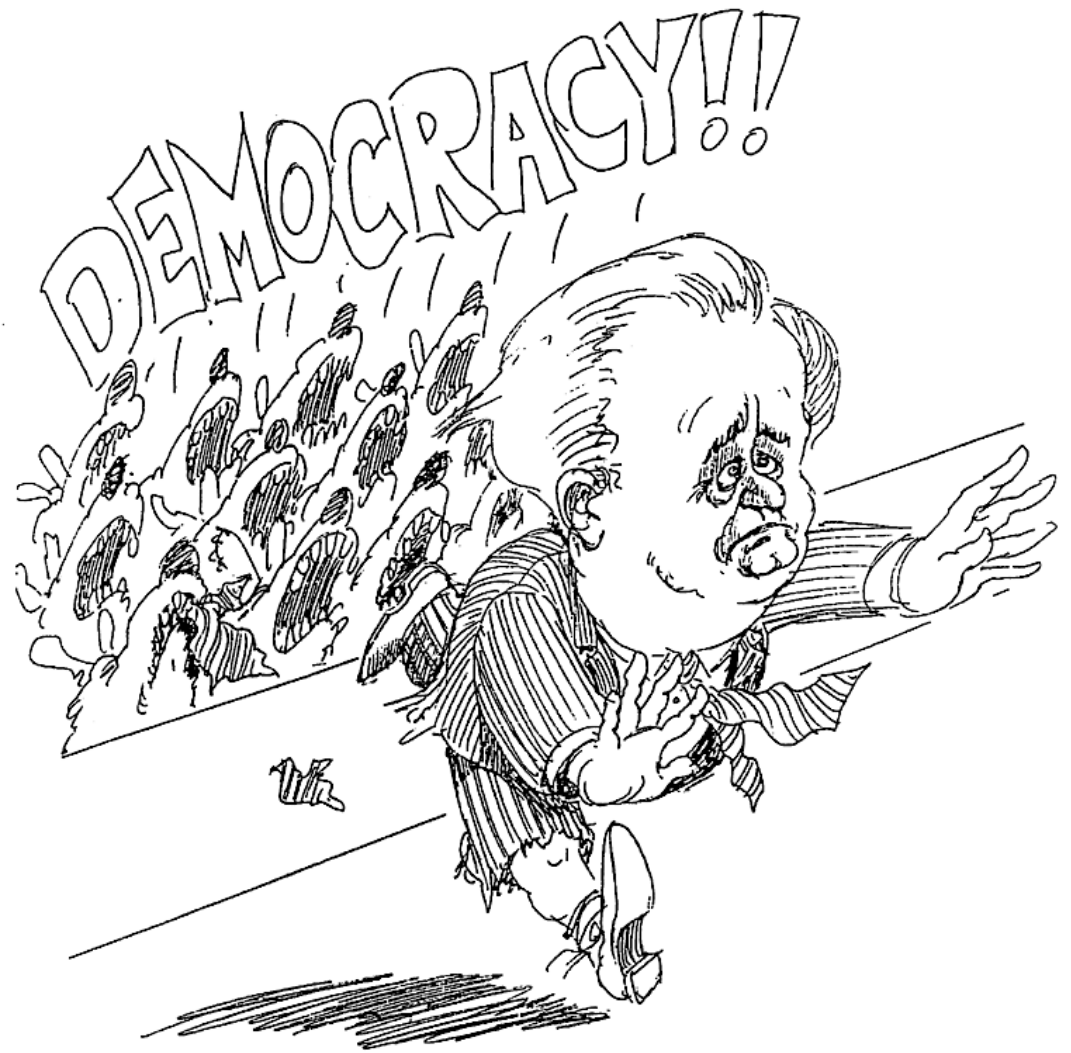
THE WORLD IS WATCHING
WE ARE WITH YOU
CARRY THE FIGHT TO THE FINISH

FROM 1/6 OF MONTY PYTHON
YOUR FRIEND, TERRY GILLIAM —

GOOD LUCK



Poo Poo Pictures Ltd.
Directors: T.V. Gilliam (US), S.D. Weston
Registered Office: Rooms 581-599,
Salisbury House, London Wall, London EC2M 5QU



YOU'VE GOT HIM ON THE RUN!
LET THE DOGS BARK LOUDLY!!!



Le grand bleu

but without Jean-Marc Barr

**Standoff with a police cordon
on Kolarčeva street
(7 days and 8 nights)**



One evening in February, the State Security Service agents rushed into our office and demanded that we take down the website.

The guys on the shift complied by turning off their workstations. Of course, the website remained operational on a remote web server. The agents appeared satisfied and quickly left, confiscating some equipment.

After this incident, we were assigned a Students' Protest Security detail, which stayed with us almost until the end of the protest. We also expanded our mirroring efforts.

▶ [Denmark](#)

▶ [United States](#)

▶ www.allston.com

▶ mineral.umd.edu

▶ www.yurope.com

▶ www.teleport.com

▶ [Japan](#)

▶ [Taiwan](#)

This incident revealed the incompetence of the state security services at the time. But it was a formative event for me because I saw first-hand how vulnerable the internet was to state censorship and that it was only a matter of time before more significant censorship attempts occurred.



internodium



Center for Internet Development

A year after the protests, I launched the [Internodium mailing list](#), which brought together Serbian and regional internet professionals and activists committed to keeping the internet open.

Following the pro-democracy changes in the year 2000, I founded the [Center for Internet Development](#), the first Serbian ICT policy think-tank that advocated for an open internet.

THE INTERNET REVOLUTION

www.wired.com/5.04/belgrade/

Amidst the regime's tight control over traditional media and persecution of independent media, internet remained the main source of information about mass demonstrations in Serbia, keeping the international media and public focused on developments.

In April 1997 issue of the Wired Magazine, reporter David Bennahum [wrote](#) on the “Internet revolution in Belgrade”:

These protests in Serbia are the first mature example of the Internet playing a role in a popular uprising against an authoritarian régime. Just as Vietnam first showed the impact television could have on a war, this struggle is the first large-scale conflict where the Internet is playing a significant role.

Za internet sluzbu:

Slobodan Markovic

Slobodan Markovic

Vladimir Todosijevic

Vladimir Todosijevic

Mihailo Tasic

Mihailo Tasic

Dragana Kuncer

Dragana Kuncer

Miljan Mitrovic

Miljan Mitrovic

Ivan Mutavdzic

Mutavdzic

Dedicated to



Srbijanka Turajlić



Dragan Večerina