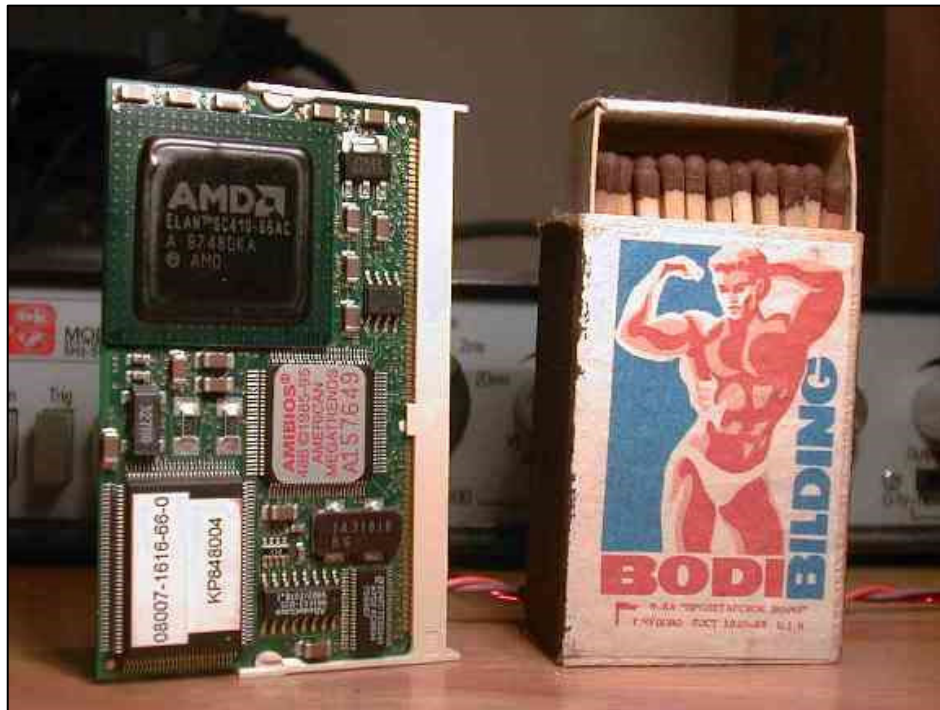


# The Matchbox Web Server



Imagine being able to walk down the street and have street directions and weather predictions instantly being sent to you and viewable on a small portable screen. Imagine being able to read your email, to chat on instant messaging programs, or to even surf the web as you walk to work. Imagine your health and location being remotely monitored by doctors and federal agencies. These are some of the amazing technologies we have to look forward to in the future. The match box web server is the world's smallest fully featured web server to date and fits inside a match box or comfortably in a shirt pocket. I believe the matchbox web server could have many uses and advantages that could not only make our lives easier, safer and healthier and therefore longer, but also more efficient and productive.

The first clear and distinct advantage of the matchbox sized web server is, unsurprisingly, its size. The matchbox web server, designed using off the shelf components, has been squeezed in to a package about one tenth the size of a portable hand held computer. The tiny device measures less than 6.9 cm tall, 4.3 cm wide, and 0.6 cm thick, and even at this size the web server performs all of the basic functions of a typical desktop computer that occupies more than 3,000 times the amount of space. As the world's smallest fully functional web server and personal computer to date, this makes the matchbox sized web server a perfect pocket companion. Due to the size of the matchbox web server it is easily concealed or disguised as something else, and can readily be locked or otherwise secured in a safe to prevent unauthorised physical access to the machine and the data it has the capability to hold.

The matchbox web server is not only designed to serve web pages but also act as a small personal computer, which can easily and effortlessly be transported to any place man or machine can go, and if necessary that can be done inconspicuously. To enable full functionality the device can be accompanied by a wireless modem, a form of user input such as voice recognition or a compact keyboard or a special kind of glove which recognises "thumbcode", as well as wearing a special kind of glasses that double as a computer display (which can already be purchased in today's modern society.) This could allow people appropriately equipped to obtain directions to certain places, to read their email "on the go", to view the latest exchange rates and stock exchange prices, or even to simply browse the web and chat with other online users. Imagine that, being able to walk down the street, navigating and crossing roads with one eye looking ahead and with the other surfing the internet, as well as simultaneously chatting to your friends.

The development of the matchbox web server could also allow huge network data centres which occupy vast areas of space and provide web servers for public connection and access to be scaled down to the size of a normal room and accommodate hundreds, even thousands of these small, lightweight machines. Although the matchbox web server may not closely meet some of the specifications of servers today, technological advances in the future will undoubtedly see this small server running at very high clock speeds, and providing vast amounts of storage all in this tiny matchbox size space. Businesses would no longer have to pay to rent out these huge facilities as everything could be done within their own office, without the need for huge air conditioned and temperature controlled rooms. Employees would need far less desk and work space, and in some cases no space at all, being fully capable of working from anywhere in the universe. The facility also has significant potential for national security and defence, and of course would have a place in espionage.

**A**mongst the endless list of implementations that are possible with the matchbox web server, it is also perfectly feasible that home appliances and devices could all be interconnected via a network, and users could remotely view the contents of your fridge and manage the temperatures, the microwave could download recipe instructions, and even remotely control house lights or air conditioning over the internet to set the perfect climatic conditions for when they arrive home. Some appliance companies already have this implemented allowing connection over the internet using refrigerators to perform online shopping. But it could be expanded a step further so the fridge would automatically determine which items are running low and automatically order via online grocery and produce stores. The interconnected (networked) devices could also communicate to each other; for example, when your alarm clock goes off in the morning it could automatically tell the coffee machine to start making your favourite blend of coffee. This could allow for a more relaxed lifestyle, as well as allowing simple tasks to automatically be accomplished without user intervention, thus saving time, effort and eliminating any stress. This may provide more leisure time for pursuing recreational and healthy activities, but there is the risk the user may become a lazy, overweight, unhealthy “couch potato”!

**A**s has been done with technology in its current state the matchbox web server could also be used as a security monitor allowing you to remotely monitor your home, detect intrusions, and also used as an alarm to notify certain authorities. It is technically possible to replace a full blown home security and alarm system that isn't even comparable in size and could provide more security features including camera support, and instant notification via email about intrusions. You could remotely watch your home through any web browser in the world, and I believe this is a major advantage and could be a major addition to security worldwide for both companies and home owners. You would feel safer knowing that while you're on holidays overseas you can simply login to the matchbox server at your house and view any suspicious activities that are occurring or read the log files of any activity. This will also allow businesses to grow, and possibly save money in the future as extra security personnel will not be required to maintain security to the building as it can all be done remotely in another firm.

**A**lthough a disadvantage to some, being able to tell the exact location of any person at any given time, what they are wearing and what they are doing could provide details on exactly what ex-criminals or criminals are currently up to and they could be continually monitored by the matchbox web server with the data being sent to federal agencies and law enforcement offices around the world, instantly. The matchbox web server would be able to send the exact location of a person (using latitudes and longitudes), and even possibly show a series of streaming images provided by a camera built in to the device. People would feel safer in their homes knowing that the location of a criminal can be tracked down to possibly within a 10 metre radius, and can be monitored by other people to make sure they are not up to any sort of suspicious activity.

**T**he matchbox web server.....a definite tool of the future! Some may argue that our lives are becoming too easy but I say we must move with the times and take advantage of whatever advances technology has to offer. Small, compact, portable, and with a multitude of uses, the matchbox web server would provide us with many benefits in our all too busy and complex lives.

## REFERENCES

World's Smallest Web Server (Mirror of the original Matchbox web server page)  
<http://www.linuxmafia.com/wearables/>  
By Vaughan Pratt / Last Updated: 25<sup>th</sup> January 1999

BBC News - Surfing on a matchbox  
<http://news.bbc.co.uk/1/hi/sci/tech/276762.stm>  
BBC News / Last Updated: 10<sup>th</sup> February 1999

CNN - Smallest Web server fits in shirt pocket  
<http://www.cnn.com/TECH/computing/9902/11/smallweb.idg/>  
By Cheri Paquet / Last Updated: 11<sup>th</sup> February 1999

ComputerUser.com News: Tiny Web Server Fits In Shirt Pocket  
<http://www.computeruser.com/newstoday/99/02/10/news4.html>  
Posted by Craig Menefee / Last Updated: 10<sup>th</sup> February 1999

Tiny Web Servers  
<http://www.cs.berkeley.edu/~awoo/cs294-8/Assignment3.html>  
Last Updated: 23<sup>rd</sup> March 2000