iFSO

IRISH FREE SOFTWARE ORGANISATION
"To Promote and Defend Free Software in Ireland"

Ms Random Politician TD
Leinster House
Kildare Street
Dublin 2

Cathal Mc Ginley
21 Jump Street
Letterkenny
Co. Donegal

cathalmcginley@eircom.net

8 April, 2004

Subject: Electronic voting must not use secret software

Dear Ms. Politician,

Many people have expressed concerns at the Irish Government's rapid push towards replacing the traditional ballot with an electronic voting system. As a supporter of the Free Software movement, I advocate the freedom of users to study and examine a program's source code. To that end, I would like to raise some serious concerns which stem from the fact that the software used for the system will remain secret, hidden from the general public.

Most criticisms of the proposed electronic voting system focus on the loss of transparency and accountability. This is not a trivial worry to be brushed aside. Professor Lawrence Lessig, of the Stanford Law School, has said:

> A 'free society' is regulated by law. But there are limits that any free society places on this regulation through law: No society that kept its laws secret could ever be called free.

This is just what the Government is proposing. A vital part of the democratic process of our 'free society' is being moved into the domain of secrecy. Under the proposed electronic voting system, we will no longer be able to see our ballots counted in a public place. Because we have no access to the source code for the tallying program, we will not even be able to see what method is used to reach a result. Citizens will be shown a list of totals, with a spoken assurance that it was arrived at honestly. This is a backwards step in terms of democracy, and it is natural that people are opposed to it.

Consider that with the current system every citizen, including your own election agent, has the opportunity and right to scrutinize and contest the manner in which votes are being counted. With the proposed electronic system, both voters and candidates will loose the freedom to examine the election process. The implementation of the process will be closed to all citizens, political parties and independent organisations.

I have several specific concerns about the proposed process, each of which stems from the secret nature of the software to be used.

An untrusted voting process

Because the software running on the voting machine is secret, voters have absolutely no idea what happens when they operate the machine and press a button to cast their vote. In particular, we have no idea if the votes are even recorded as they were entered. Practically all software contains errors; there could be a serious error in the vote recording code. Or it may have been deliberately altered to favour one political party, or to mix up secondary preferences, or to record a random vote for all we know.

A common and very serious criticism of electronic voting in general is the possible loss of anonymity. Voters are right to worry. We are assured that "each vote will be recorded randomly in the ballot module". This is just an empty assurance; without free access to the source code, we have no idea that this is true. If it is not, complicity on the part of election officials in the polling station could make votes traceable in a way that was previously impossible, even with dishonest officials.

Even if the Government were to trust blindly the 'audit' the code has allegedly gone through, the current system makes no provision for establishing to the public, beyond doubt, that the code which was audited is the same code which is running on the voting machines. Not even the Department of the Environment will be able to tell whether the code they receive after September is the same code used in the June election. Just a few lines of code can make the difference to an election and only those who wrote the code, if even they, will know if changes were made.

A secret counting process

The capacity for corruption of the counting system is immense. Again, as a first concern, how are we to know that the software is free from errors? The proportional representation system used in Ireland (Proportional Representation/Single Transferable Vote) is complicated and relatively rare worldwide: it would be easy to either misunderstand the specification or introduce an error in the implementation.

Secondly, without public scrutiny of the code, who is to say that the votes are being tallied up fairly? Software is very easy to change quickly; any corrupt group with sufficient funds for bribery could pay for the code to be modified to give them an advantage in elections. Electoral fraud on a hitherto unprecedented scale could be perpetrated easily. While the software is secret, after an election, we can only 'trust' that fraud has not occurred, we cannot prove that it has not.

And again, as with the voting machines, we have no way of telling if the secretly 'audited' code is the code running on the tallying machines.

Elections are often won and lost by a handful of votes. Previously, as more recounts were called, ballots were more thoroughly scrutinized and the counting process more vigourously examined by agents of the candidates and the public. With the proposed system, a few lines of code could 'slip in' – by accident or deliberately – which would effectively change the result of an election if even only by a handful of votes. Because the source code of the software is not available to all for scrutiny, because it was "a close-run election anyway", no one would ever know that a candidate was elected illegally, due to software failure or fraud.

I would ask that you recognize the severity of the issues I have raised, and that you ensure that the public is made aware of these dangers. I hope that you will oppose the currently proposed electronic voting system, and any 'compromise' proposal which does not solve at least these problems. Irish democracy is important; we must not allow it to be treated as a trade secret.

Yours sincerely

Cathal Mc Ginley