

***Future dependability problems:  
insoluble?  
intractable?  
or just very difficult?***

(Musings of a WG10.4 not-quite-so-old timer)

**Tom Anderson**

**But before that:**



**IFIP WG 10.4**

A recollection of the group's Summer meeting  
June 1990, Ambleside, Langdale, UK

Excursion: hill walk to Pavey Ark

Revisited on 24<sup>th</sup> April 2023



## Dependability for future systems

- **Insoluble:** not able to be solved  
Surely not, ways must/will be found, evasion if need be.
- **Intractable:** really really difficult to solve or alleviate  
Well, maybe, but history is on our side.
- **Very difficult:** not at all easy to solve or understand or do  
For sure, that's as it should be.

## What's the problem then?

The main focus seems to be on:

systems that are arcane, horribly complex,  
probably AI/ML based,  
embodying a host of novel technologies,  
widely deployed on critical tasks,  
in essentially arbitrary environments.

[A standard paradigm is the vision of fully autonomous, go  
anywhere, road vehicles.]

## Excellent – a tremendous challenge

Not for me though. Not anymore.

My challenges are now to be found in the hills.

But I still enjoy listening (and learning).

From the highly informative presentations at this workshop and especially at the dynamic panel session

– tomorrow morning at **0830**.

## Is that it?

Well, no, it isn't.

What about the systems at the other end of the spectrum?

In use by all of us, day after day. Basic, elementary systems.

Some of which are brilliant of course,

but far far too many are, frankly, appalling.

What is the enormous difficulty preventing lots of simple systems from delivering dependable service?

*Dependable?* – their designers couldn't even spell it.

## You want examples? Really?

Web sites that are almost useless because of inconsistent operation and unnavigable structure, and useless search engines.

Vehicle “infotainment systems” where the Satnav is almost unusable.

Corporate financial management systems. [*Don't get me started.*]

Employee expense claim systems. [*Deliberate malfeasance?*]

Ineffective touch screens. [*Unbelievable.*]

My microwave oven. [*Incredible.*]



## Mostly due to a rubbish interface

Whatever.

These deficient and undependable systems are everywhere.

Very likely more problematic and more costly than many critical systems that mostly work very very well indeed.

So, what is the challenge? Education, I think. I blame the teachers and academics.

OK, and commercial pressures over-riding quality of design.

Thus, we need better education and more stringent regulation.

## A different challenge

### **The Grande Jorasses 4208 m**

One of the three great north faces in the European Alps.

The next slide shows Punta Margherita, Pointe Croz, Pointe Whymper and Pointe Walker (ascending height, right to left).

First reached from the opposite side in 1868,  
but now with many routes on the face itself  
(such as the Walker Spur direct, first climbed in 1938).

