Simulating SIMULA and more...

Karel Babcicky
babcicky@online.no

ASU Conference 2017

An overview

- A little bit of history
- The IBM System/370 Simula revival
- Future that did not come

A little bit of history

- How it all started (for me)

- All that we did not know…

  'object code', 'load module', 'linker' ++ were a mystery to us

- Software tools at hand

  assembler (mostly ignored), PL/360 (loved), JCL (hated)

- And the hardware options!

A little bit of history - hardware

An excerpt from a marketing text for the completed product:

> - The minimum partition needed for the SIMULA compiler is 120K bytes, this independent of the compiled program size; the run-time system requirement is considerably lower though this is dependent on the executed program size.

A little bit of history - hardware

- Original spec: 92KB partition size for Simula program compilation

   (compare to 640 KB memory size in MS DOS a few years later)

- Later increased to 128KB

   Ignored - we had implemented a virtual memory system instead

- Its impact on execution speed was smiley

- Typical turnaround for a run was 1 hour to 1 day

   It was a disaster to leave out a comma or a blank

   (the pains required to avoid it marked me for life…)

Working at the bit level helped…

The IBM System/370 Simula revival

- It can be nowadays run on a PC

  (c.f. the background covered by Peter Sylvester)

- Download the emulator from

  http://www.ub.uio.no/fag/informatikk-matematikk/informatikk/faglig/dns/index.html

Om SIMULA

- Store norske leksikon om SIMULA
- Simula-bibliografi (pdf)
- The Simula programming language med lenke til kompilatorer for Linux, MAC OS og Windows, samt en bibliografi.
- Karel Babčický. Running SIMULA 67 on IBM System/370 emulator. Description, Setup file
- SIMULA 50 years Event. September 2017.

Complete instructions for the emulator use

- Start the mainframe first
- Start peripherals
- Connect the two
- Submit a job
- Await the execution completion
- Enjoy!

Problems: - does not print bold face
          - only batch processing

Further limitations

- ## After the team was dismissed, it was still necessary
  - To carry out maintenance
  - Support marketing, sales and distribution
  - Port the implementation to other systems (ICL, Siemens, …)

- ## Therefore
  - No interactive execution support beyond **BreakOutimage**
  - no adherence to new SIS standard

- ## But all this had a consequence

  C++ would not have come otherwise

NCC Simula support was enormous

- Support of the existing and new implementations
- Support of the SSG, SDG and ASU
- SIMULA Newsletter production and distribution
- Annual conferences
- Several specialized seminars every year
- Simula courses
- Sales and marketing activities

However…

- It stayed exclusively on mainframe platforms
- Missed both mini- and micro computers
- Missed PCs and Windows appearance
- **Underestimated development of libraries**
- All due to lack of capacity, means and ambition

Fortunately, others stepped in…