Embench™ Update for FOSSi

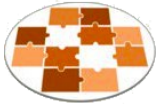
5 Aug 2022

Embench

The 7 Design Rules for Embench

1. Embench must be free
2. Embench must be easy to port and run
3. Embench must be a suite of *real* programs
4. Embench must have a supporting organization to maintain it
5. Embench must report a single summarizing score
6. Embench should summarize using geo mean and std. dev.
7. Embench must involve both academia and industry

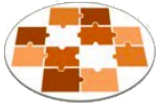
Embench



TimeLine

- **Feb 2020**: Embench 0.5 released
- **Jan 2021**: Embench 1.0 released
- **Jan 2023**: Target date for Embench 2.0 release
  - better scripts
  - better way to measure size
  - replace a proportion of benchmarks
    - 3 new so far, 1 identified to go, 2 that need serious rework.
  - could do with more engineering effort!

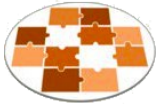
Embench



Key New Initiatives

- **Embench DSP** in progress led by Prof Ray Simar of Rice
  - larger embedded processors (up to 1MB memory)
  - including floating point
  - potentially with RTOS (TBD)
- **Embench Realtime** work stalled
  - benchmark interrupt latency and context switching time
- **Wally processor benchmarked** using event driven simulation
  - reference design for *Digital Design and Computer Architecture* by David Harris and Sarah L Harris

Embench



Thank You

embench.org

github.com/embench/embench-iot

lists.librecores.org/listinfo/embench