Modeling of an MPEG Layer-3 Encoder in Ptolemy

Patrick A. Brown

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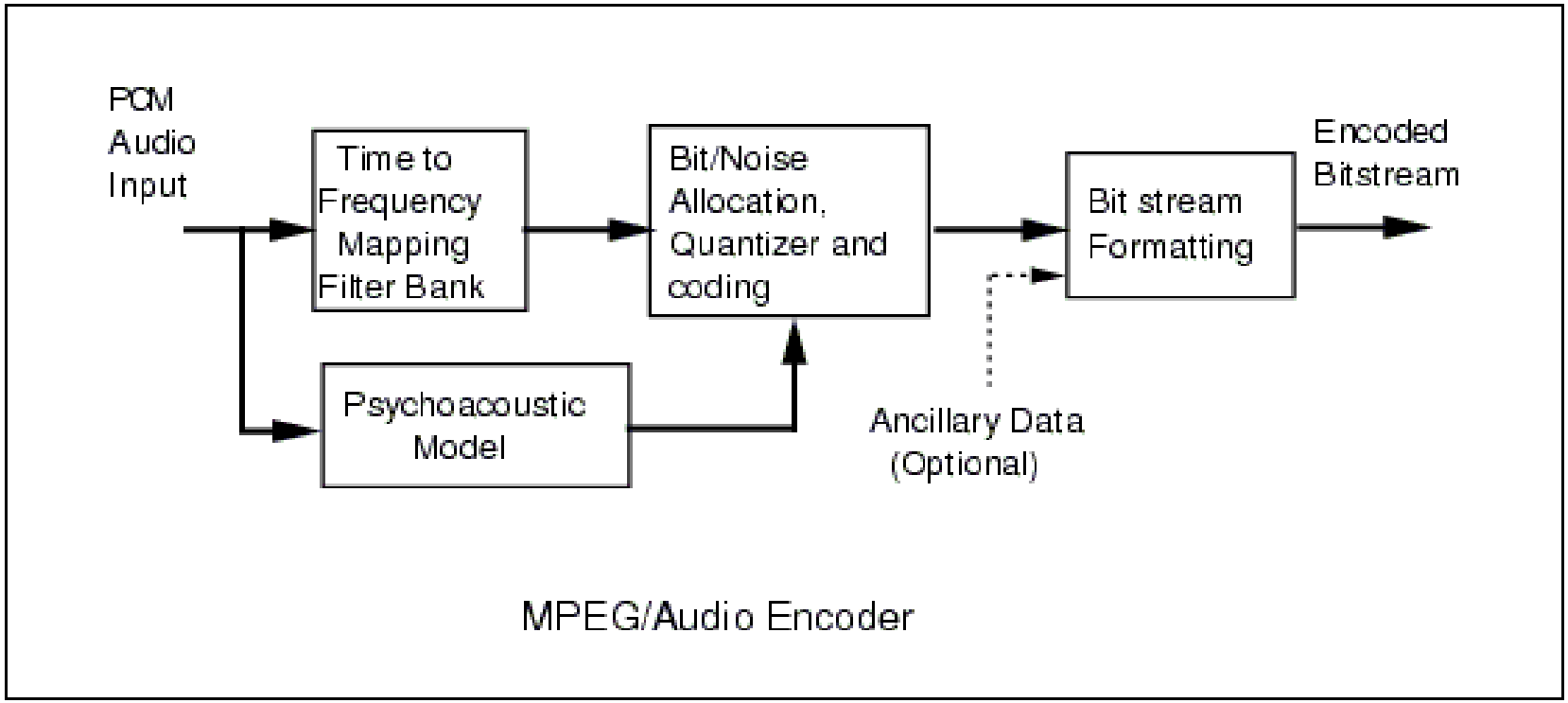
EE382C - Embedded Software Systems

The University of Texas at Austin

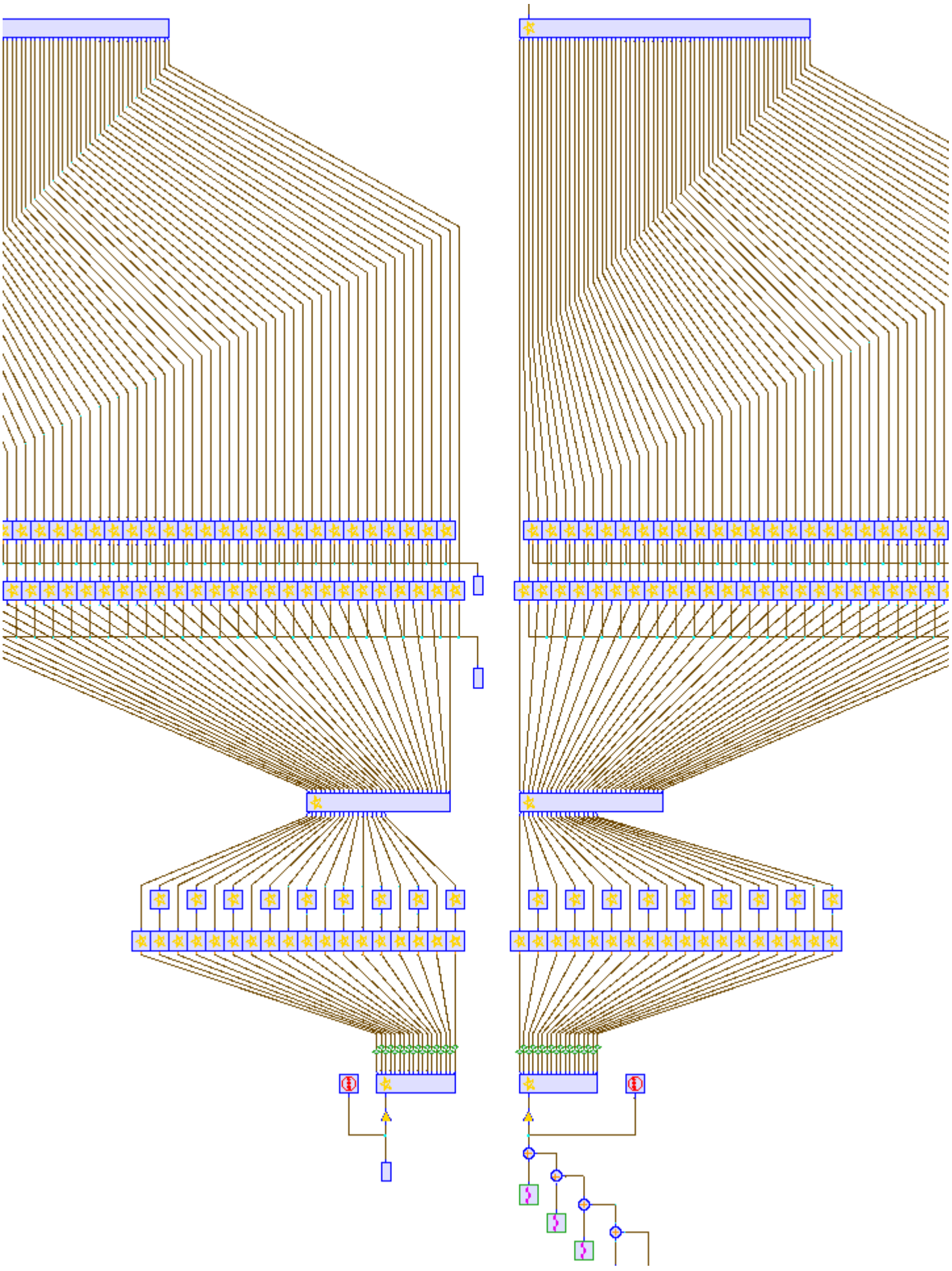
The Goal

- A formal model, using Ptolemy



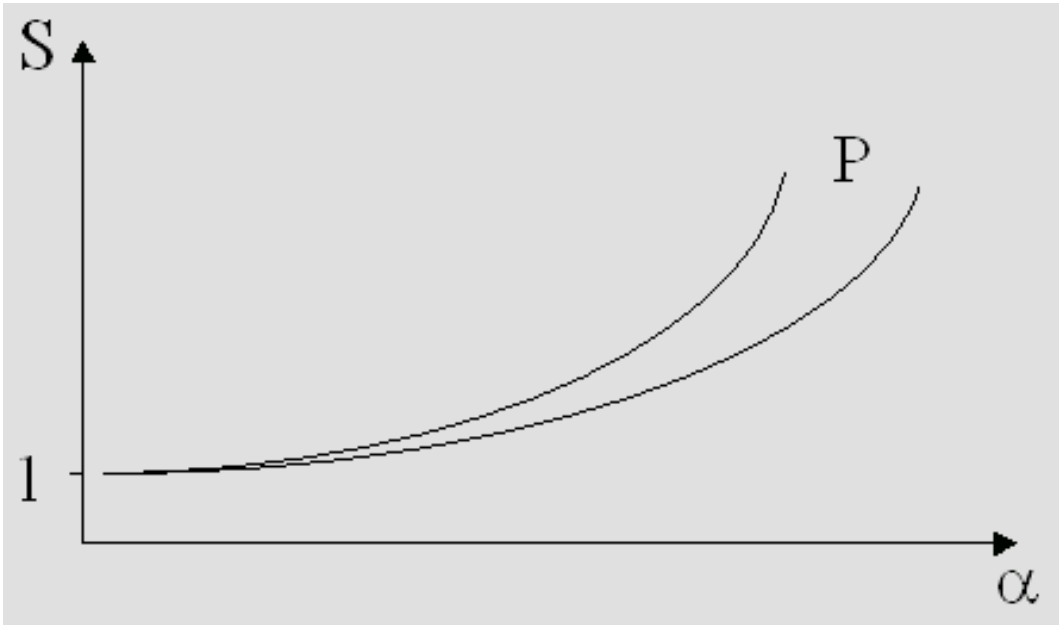
The Strategy

- The "Sledgehammer" Approach
  - Easy, But Worthwhile?
- The "Kitchen Sink" Approach
  - Very Difficult
- **A Reasonable Compromise**
  - Expose Parallelism



The Results

- Enormous Parallelism
  - Typical of Signal Processing
  - **Amdahl's Law**



Conclusions

- Translating the ISO Standard into Ptolemy
  - Difficult, but Possible
- Applications
  - The Average Desktop User?
- Further Possibilities
  - NSP
  - SDF Multiprocessor Scheduling