UNIVERSITY OF CAMBRIDGE

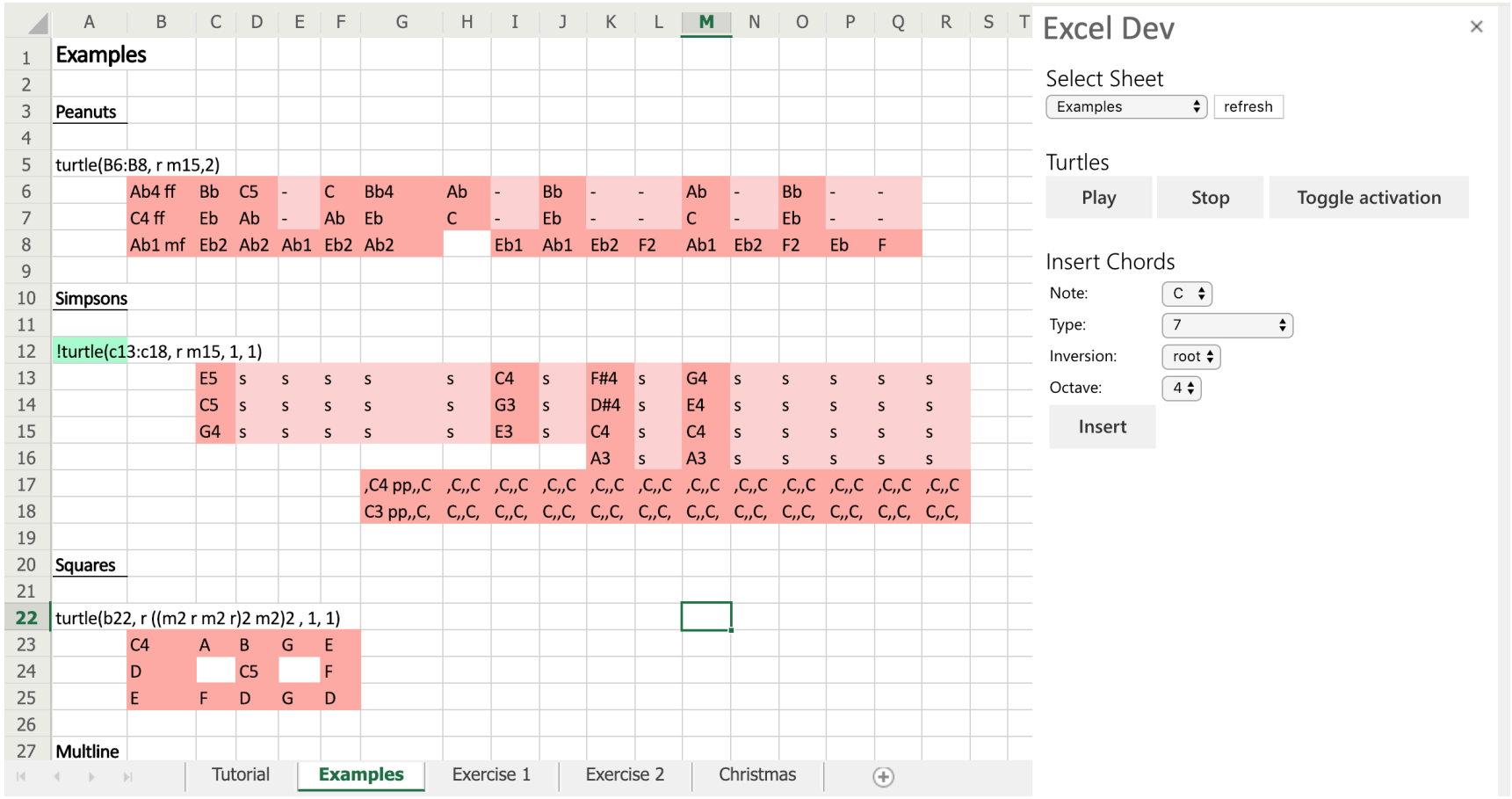
Music Generation in Microsoft Excel

Henry Mattinson - part II project - progress report

Computer Lab / Microsoft Research

Design / Implementation

- APIs
  - Tone.js
  - Excel
- Turtles
- Cells
  - Notes
    - Pitch
    - (Octave)
  - (Dynamics)
  - Rests
  - Sustains
  - Subdivided



Turtle Movements

- turtle(<starting cell(s)>, <movements>, <speed>, <loops>)
- Starting cell(s): “A1”, “A1:A5”
- Movements
  - Direction changes
    - Relative direction changes: “r”, “l”
    - Absolute direction changes: “n”, “e”, “s”, “w”
  - Movements
    - Step forwards: “m4”
    - Absolute jumps: “jA1”
    - Relative jumps: “j-7+1”
  - Nesting: “(…)n”
    - E.g. “(r m3)4” = “r m3 r m3 r m3 r m3”
- Speed: “1”, “1+1/3”
- Loops: number of times the path is looped

Cooperative Evaluation

- Participants
  - 20 +
  - Cambridge University students
  - Wide range of musical / technical experience
- Evaluation sessions
  - Tutorial
  - Exercise
- Improvements / suggestions
- Summative evaluation
  - CDN profiles

Next Steps

- Features
  - Infer movement length “r m*”
  - Live?
- MIDI converter
  - MIDI -> Excel notation (evaluation)
  - Excel notation -> MIDI?
- Summative evaluation