Musical Ornaments

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May 14, 2018

Outline

- A look toward the future
- Music Tools
- Equivalences
- Ornaments

Sources:

- https://github.com/halfaya/MusicTools

Robert Harper

Eventually all the arbitrary programming languages are going to be just swept away with the oceans, and we will have the permanence of constructive, intuitionistic type theory as the master theory of computation—without doubt, in my mind, no question. So, from my point of view—this is a personal statement—working in anything else is a waste of time.

CMU Homotopy Type Theory lecture 1, 52:56–53:20.

Music Representation

```
data Pitch : Set where
  pitch : ℤ → Pitch

data Duration : Set where
  duration : ℕ → Duration

data Note : Set where
  note : Duration → Pitch → Note
  rest : Duration → Note

data Music : Set where
  note : Note → Music
  _::_ : Music → Music → Music -- sequential
  _||_ : Music → Music → Music -- parallel
```

Conclusion

Goes here.