Hoon 201: Advanced Hoon

Instructor: David Kerschner

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Office: Discord

Office hours: 5 pm to 6 pm PT on weekdays (excluding US federal holidays)

Texts: Chapter 2 of the Hoon Tutorial

Course Description

Students will learn the advanced principles of the Hoon programming language, enabling them to do application development on Urbit.

Three things will be assigned for the first seven Mondays: a tutorial reading lesson, a code-example walkthrough, and a mandatory coding assignment. The lessons from the Hoon Tutorial explains the fundamentals, while the walkthroughs will dive right into practical examples of the code.

On week eight, students will be assigned a coding project instead of these other materials.

The instructor is guaranteed to be available during office hours to help you with any of the course subject matter, and may be available during other times as well. Don't be shy about asking questions!

Objectives

Upon successful completion of this course students will have demonstrated the ability to:

- Read, understand, and comment sophisticated Hoon programs
- Write Gall apps
- Understand the functions of Arvo vanes
- Understand the Hoon type system

Course Outline

Week 1

- Generators refresher
- Auras, Atoms, Types
- Type Checking and Type Inference

Week 2

- Structures and Complex Types
- Trees, Sets and Maps

Week 3

- Type Polymorphism

Week 4

- Gall
- Arvo Vane: Behn

Week 5

- Using the Asynchronous Monad

Week 6

- Arvo Vane: Ford

Week 7

- Arvo Vane: Eyre

Week 8

- Final project

Grading System

Assignments are assigned on Mondays and are due by noon (Pacific Time) on the following Monday. Assignments and the final project are handed in via this form [ADD LINK]. Late work is always accepted! So if you're falling behind, don't give up!

Every week for the first seven weeks, one coding assignment worth will be assigned. As an additional weekly task in their submission to the email to the instructor, **students are expected to tell us what part of that week's materials they think needs to be made clearer**. Please be specific!

On week eight, one self-directed final project worth 200 points will be assigned.

Grades are pass-fail. Failed assignments can always be corrected.

Assumptions

- You have completed Hoon 101, or you otherwise are competent with Hoon.
- Urbit runs on Linux and Mac. If you're using Windows, you'll need to run Linux on a virtual machine, partition, or a server.