

8th Light Apprenticeship Checklist

Goals: An apprentice should show proficiency in the following areas:

- Crafting code
 - Can create simple applications without any assistance
- TDD
 - Unit Testing
 - Acceptance Testing
- Refactoring
 - Identifying smelly code
 - Improving the design
 - Staying green
- Design Principles
 - SOLID
 - Package Principles
- Object Oriented Design Patterns
 - Can identify patterns
 - Can apply patterns
 - Aware of costs and benefits of patterns
- Pair Programmer
 - Articulate a design or algorithm
 - Effective as a driver and navigator
- Agile Software Process
 - Works in iterations
 - Story cards
 - Demos new features
 - Stand-ups
 - Retrospectives
- Estimating
 - Commit to a task and timeframe
 - Identify tasks too large for a timeframe
- Customer Collaboration
 - Creating stories based on a customer discussion
 - Creating Acceptance Tests with the customer
 - Providing transparency to customer
- Polyglot
 - Familiarity with a variety of language constructs
 - Can read code in unfamiliar languages
 - Can write code in multiple languages
- Communication Skills
 - Engaging live presentations
 - Clear writing
- Teaching
- Community Involvement
 - Blogs
 - User groups
 - IRC
 - Email lists
- Collective Ownership
 - Follow conventions
 - Leave the code cleaner than you found it.

A Few books from the 8th Light Book list:

Software Craftsmanship - Pete McBreen

Pragmatic Programmer - Hunt / Thomas

Agile Software Development, Principles, Patterns, and Practices - Bob Martin

Clean Code - Bob Martin et al.

Refactoring - Martin Fowler

Design Patterns - Gang of Four

eXtreme programming explained - Kent Beck

Clean Coder - Bob Martin

Structure and Interpretation of Computer Programs – Abelson and Sussman

Example 3 month Apprenticeship

Week 1:

- Project: Java TTT - console,
- Lessons: minimax SOLID
- Books: PPP, Clean Code, Extreme Programming Explained

Week 2:

- Project: Java TTT - Swing GUI, UML, - pairing on 8L internal project
- Lessons: package principles, TDD/mockings, Rails, Cucumber
- Books: Clean code

Week 3:

- Project Java TTT - 3-dimensional (caching, performance issues), pairing on 8L internal project
- Books: Clean Code

Week 4:

- Project: Java TTT - 4x4, 8L internal (ci server)
- Books: Clean Code

Week 5:

- Project: Java TTT - caching, cleanup, Limelight UI
- Books: Refactoring, SICP

Week 6:

- Project: Limelight TTT
- Books: SICP, Working Effectively with Legacy Code

Week 7:

- Practice: Prime Factors kata
- Project: Research / spike for client project
- Books: SICP, WELC, Thinking in Java

Week 8:

- Project: pair programming on client work
- Books: Thinking in Java, SICP

Week 9:

- Project: pair programming on client work
- Practice: Fittness (a bit)
- Books: SICP

Week 10:

- Practice: web design work
- Project: SCNA website
- Books: SICP

Week 11-12: Challenges