Result of IPRO Deliverables

<table>
<thead>
<tr>
<th>Project Plan</th>
<th>Midterm Report</th>
<th>Code of Ethics</th>
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<tbody>
<tr>
<td>Grade: 14/14</td>
<td>Grade: 16/16</td>
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Work Results

**Book Results**
- Revised Chapters: 7
- Completely New Chapters: 4
- Total Chapters: 11

**Exercise Results**
- total time spent (min): 5285
- average time spent (min / prob): 18
- average grade (out of 5): 4.15

**Exercises Changes**
- Changed: 23
- Added: 35
- Deleted: 14

**Exercise Difficulty**
- Easy: 2%
- Medium: 35%
- Hard: 63%

Chapter Comments Score Board

<table>
<thead>
<tr>
<th>Team Member</th>
<th>Major</th>
<th>Average/Chapter</th>
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<tbody>
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<td>Allen, David</td>
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**Code of Ethics**

**Overarching Standard**
- All book-contributors will:
  - Fulfill all requirements set forth by the client
  - Submit only original work
  - Never lose sight of the best interest of the consumers
  - Never act unfairly toward fellow members

**Paradigm of Code of Ethics**
- The book uses multicultural examples and exercises such as driving or making sandwiches.
- All of our content is original and created with our audience in mind.

**Meeting Structure**
1. Two consecutive class hour meeting
2. Thursday IRC online chat
3. Wednesday Editing Subteam meeting

**Time Spent**

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**weekly total** | 57.9     | 100.1    | 89.6      | 105.4     | 116.5    | 126.0   | 81.0      | 41.5      | 94.0      | 85.5    | 102.5    | 106.3    | 1100.9  |
**week average** | 4.8      | 8.3      | 7.5       | 8.8       | 9.7      | 10.1    | 6.8       | 3.5       | 7.8       | 7.1    | 8.5      | 8.9      | 91.7    |
**IPRO 328 Members**

David Charles Allen, Nicholas Bathum, Katherine Hammes, Seon Jeong, Leland Johnson, Roman Kofman, Noh Hyup Kwak, Vivek Patel, Phillip Rymek, Peter Schmitz, Michael Tilatti, Harry Tran, Yacin Nadji (Student Advisor), David Grossman (Advisor)

**Grading Team: Leland Johnson, Phillip Rymek**

- Created lecture slides
- Taught the book in a lecture format
- Graded all the homeworks
- Commented on every chapter

**Editing Team 1: Katherine Hammes, Roman Kofman, Phillip Rymek, Harry Tran**

- Created new chapters 1 through 8
- Re-edited chapters 1 through 8 based upon others' comments
- Commented on chapters 9 and 10

**Editing Team 2: Nicholas Bathum, Peter Schmitz**

- Created new chapters 9 and 10
- Edited chapters 9 and 10 based upon others' comments
- Commented on chapters 1 through 8
- Initially helped the exercise team

**Exercise Team: David Allen, Nicholas Bathum, Seon Jeong, Noh Kwak, Vivek Patel, Peter Schmitz, Michael Tilatti**

- Responsible for learning Ruby and all concepts presented in the book.
- Completed all homeworks to test proficiency of the book.
- Commented on every chapter of the new book.

**Exercise Fixing Team: David Allen, Seon Jeong, Noh Kwak, Vivek Patel, Michael Tilatti**

- Modified, deleted, and created problems for every chapter of the book
- Populated new chapters with problems
- Commented on every chapter

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**Development Cycle**

1. **Begin Chapter**
   - Grading Team lectures chapter
   - Editing Teams begin creating new chapter

2. **Step A**
   - Exercise Team begins homework and comments on Editing Teams new chapter
   - Editing Teams modify new chapter based upon Exercise teams comments

3. **Step B**
   - Grading Team grades homework turned in by Exercise Team
   - Exercise Fixing Team fixes exercises from chapter

4. **Step C**
   - New chapter and exercises have been created. Move on to next chapter
Testing and Improving a New Text for Teaching Computer Science

**Background**

Most Traditional Computer Science Texts are:

- Long and Imposing
- Out of touch with student needs
- Out of touch with industry

**Problem**

Create an effective text:

- Assess and improve the text
- Create teaching tools
- Create new problem sets

**Objectives**

- Text itself
  - Revise or rewrite all 8 Chapters
- Teaching Tools
  - Create and test slides
- Problem Sets
  - Test and revise for all 8 Chapters

**Results**

- One entirely new book
- A lot of edits based upon real results
- An almost complete set of lecture slides
- Problems rearranged, edited, and recreated based on student feedback

**Phase One (Create original book draft)**

- Last semester's IPRO was given a bare bones draft of a Ruby textbook provided by Prof. Frieder & Prof. Grossman

- They accomplished the following tasks:
  - Improved & edited the text itself
  - Developed 20~30 exercises per chapter and solutions for every exercise.
  - Developed 5-6 programming examples
  - Creating figures & accompaniments
  - Created two Model Eliciting Activities

- The book was not perfected and needed a large scale revision phase, Phase 2 – this semester of IPRO 328

**Phase Two (Test and Revise)**

- Returning members from last years IPRO taught the class the contents of the book.

- Homework was assigned to class and graded by whoever lectured that week.

- Grades and class input were tracked using Google Docs and was used to drive changes to the book.

This innovative method allowed us to accomplish the following:

- We completely revised 7 of the chapters and created three entirely new chapters.
- 8 of the 10 chapters have lecture slides, and they have all been successfully tested.
- Problems from every chapter were revised and many new problems created.