



Advanced Software Engineering

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# Outline

- Features
- Technologies
- Coding Highlights
- Project Management
- Demo
- Conclusion

# Features

- User authentication
- Create Sport Sessions
- Friendships (send request, confirm/decline)
- Invite friends to participate
- Add results (GPX data)
- Earn achievements

# Technologies

- Backend: Ruby, coach4rb, rest-client
- Framework: Rails
- Frontend: UIKit, JQuery, Flot
- Web services: CyberCoach, Google Maps

# CyberCoach Integration

- Users
  - Authentication, basic profile data
- Subscriptions
  - User is subscribed to all sport entries
- Entries
  - Entry type holds sport session information

# Backend / gpx / Coding Highlights

- Features
  - Backend as a whole is a gem: coach4rb
  - User scoped access to Cyber Coach Resources
  - Build objects without using a constructor
  - Gpx file parser is a gem: gpx\_ruby

```
def test_should_create_a_user
  user = @coach.create_user do |user|
    user.real_name = 'the hoff'
    user.username = 'wantsomemoney' + DateTime.now.to_s
    user.password = 'test'
    user.email = 'test@test.com'
    user.public_visible = Coach4rb::Privacy::Public
  end
  assert user
```

```
def test_should_read_gpx_xml_using_a_shortcut
  xml = File.open('./test/run_keeper.gpx') do |f|
    f.read
  end
  gpx_file = GpxRuby::XML(xml)
  assert gpx_file.creator
  assert gpx_file.version
end
```

# Timeline / Coding Highlights

- List of Items with different types
  - Friends
  - Achievements
  - SportSessions
- Features
  - Provide a proxy object for the view
  - Each item object knows its view
  - Item 'specific rendering'

# Achievements / Coding Highlights

- Rules as JSON
- Different Validators evaluating a rule
- Rake task to update the achievements:

```
rake achievements:update
```

```
achievement do
  title 'Fast Fists'
  description 'Knockout your opponent in the first two rounds!'
  points 500
  validator 'AttributeValidator'
  sport 'Boxing'
  icon 'boxing/man49'
  rules [
    {operator: '=', attribute: 'knockout_opponent', value: 1},
    {operator: '<=', attribute: 'number_of_rounds', value: 2}
  ]
end
```



# Project Management / SCRUM

- Backlogs: Google Docs
- Start of sprint: Move tasks to GitHub issues
- Every team member picks a feature
- Communication
  - Weekly meeting
  - GitHub comments
  - Mail / Skype / Phone (rare :))

# Demo

- Link

# Conclusion

