

# Teamwork in CSCI 335.01

## Web Information Retrieval

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### Overview

The programming project for the course will be carried out in teams. The instructor will assemble the teams with students inputs. Two types of teams co-exist throughout the semester. One is the *integration* team or *vertical* team, the other is the *expert* team or *horizontal* team. Each student belongs to two teams simultaneously throughout the semester. The integration team is the primary team. It is responsible for putting all components together to make it a working search engine. The *expert* team is specialized in one particular component of the search engine, for example, indexing.

The *integration* team is the primary team that each student belongs to. This team will build a complete search engine that is hopefully unique to each team. Team members can think of that they own the search engine and they want to be able to compete and win over search engines built by other teams. The *expert team* is secondary in which students discuss and exchange ideas how to build a particular component of a search engine.

The description below is primarily about the integration team. The expert team is informal during the project.

### Team Structure

Each team will have four (or three) members. Each member of a team assumes a role in a particular phase of the project. The four primary roles of an integration team are listed below.

- **Coordinator** whose responsibilities include call meetings, monitor project progress, facilitate interfacing different components, and represent the team when a single representative is needed.
- **Domain expert** who is an in-house expert in a particular area corresponding to a software component and chief programmer for that component.
- **Librarian** who is to do bookkeeping, take meeting minutes, organize the reference papers, and other sources of information.
- **Programming Partner** who works with the chief programmer in implementation of the component.

In a three-member team, other two members become the programming partners to the domain expert in addition to their own roles. The roles must be rotated as the project progresses into different phases. Each member will play each role at least once. The duties of each team member should be clearly indicated

in each of the team report, which is to be submitted at the end of the each project phase. Each team should meet at least three times during a project phase formally in the sense that a log should be kept to discuss progresses and problems related to the project. The domain expert should meet with other experts in the same domain to exchange ideas. This should be reflected in the team meeting log.

## Required Work

Each team will meet at least three times formally during each phase of the project. A log should be kept for the meetings. The minutes should include the time of the meeting, the place of the meeting, the participants, the issues discussed, the conclusions reached, among others. The meeting can be brief if there aren't many issues to discuss (though this is unlikely the case for the given project). A copy of the log must be turned in along with the project phase report. Each student is also required to turn in an evaluation form (see next section for detail) for each phase.

## Performance Assessment

Team performance will be assessed using multiple mechanisms. Basically it is a combination of instructor's evaluation based on the team work including programming project and the team report, team member evaluation and self-evaluation. See the attachment ("*Peer Rating Factor*") for details of the rating algorithm. The exception is that we will use a different verbal to numerical converting rate than the one used in the paper. The following is the rating we will adopt.

Excellent	100
Very good	90
Satisfactory	80
Ordinary	70
Marginal	60
Deficient	50
Unsatisfactory	40
Superficial	30
No show	0

The key point in this peer rating is that the ratings should reflect each individual's level of participation and sense of responsibility, not his or her academic ability.

In our project, the project will be graded on the *integration* team only. The assessment will take place after the completion of each phase. The average of all phase grades will be used for the semester grade for the project of individual student.

## Teamwork Resources

Teamwork is an extremely important skill that students should acquire. One cannot overemphasize the importance of teamwork experience. Students should view their experience of teamworking in the project as important part of the project as the code design and development themselves. Teamwork doesn't always mean smooth corporation among team members. It doesn't mean there would be no conflict. It doesn't mean one or more members will ride the work of others for free. Teamwork means the members of a team work together as a whole to accomplish a task. Along the way the team members learn *how* to work

together, *how* to distribute the work load, *how* to resolve conflicts, *how* to criticize constructively, *how* to accept criticism, and most importantly, *how* to share the joy (and possibly some sorrow) of the work accomplished by the team.

Teamwork as a subject has been studied widely. Some references are listed here. Students are strongly encouraged to read these materials and gain an insight into teamwork.

1. "Practical Guide to Teamwork",  
URL: [http://www.departments.bucknell.edu/projectcatalyst/Finalized%20Materials%20for%20CD/bucknell\\_materials/TeamWork\\_Guide.pdf](http://www.departments.bucknell.edu/projectcatalyst/Finalized%20Materials%20for%20CD/bucknell_materials/TeamWork_Guide.pdf) by a team of Bucknell Engineering faculty.
2. Dr. Richard Felder's work in the area of active and cooperative learning,  
URL: [http://www.ncsu.edu/felder-public/Cooperative\\_Learning.html](http://www.ncsu.edu/felder-public/Cooperative_Learning.html)
3. "Managing technical people: innovation, teamwork, and the software process" by Watts S. Humphrey, QA76.76.D47 H86 1997, in Bertrand Library.