

TEAM DEVELOPMENT

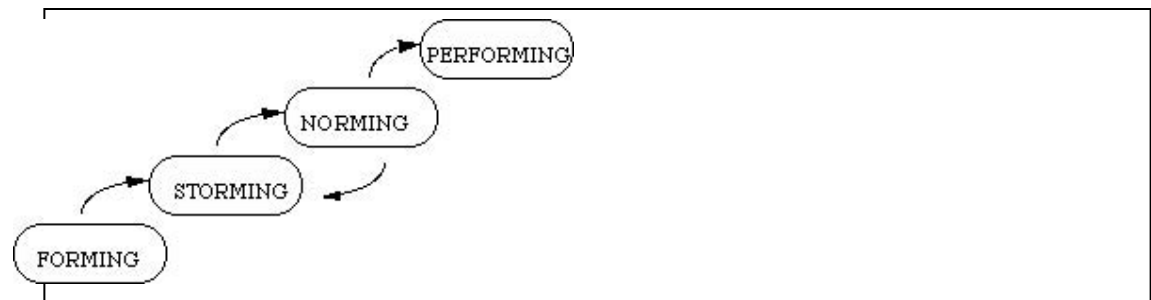
ASPIRE: Alabama Supercomputing Program, Computational Science Textbook, Chapter 3

The process of completing a computational science project is time consuming and intellectually challenging. It is rare that a single person will have enough knowledge, experience, or time to understand and complete each facet of the project. It is also all too easy for one person's commitment and enthusiasm to waver during a long-term project. Several people pooling their skills, talent and knowledge, should result in gains in quality and productivity. People working together can also sustain the enthusiasm and lend support needed to accomplish a positive goal.

Defining a project, gathering data, developing code, writing a report, are components of a successful project. To complete these tasks, team members must work out personal differences, identify individual members' strengths, and balance work on the project with other academic and extra-curricular commitments. A team can concentrate on project goals best when team members:

- recognize their dependence on each other and their need for mutual support;
- feel a sense of ownership in their project and are committed to goals they helped establish;
- apply their individual talent and knowledge to team objectives;
- work in a climate of trust;
- practice open and honest communication;
- recognize that conflict is a normal aspect of human interaction; and,
- work together to resolve conflict quickly and constructively.

As a team works together on a long term project, it is widely conjectured that they go through four predictable stages.



1. Stage One: Forming

The forming stage is a stage of transition from individual to team status. When a team is forming, members are exploring the boundaries of acceptable group behavior. There is considerable time spent off task and, consequently, there is some confusion. At this stage, teams should focus on the following actions:

- establish the norms of acceptable group behavior;
- determine individual roles;
- define the task and decide how it will be accomplished;
- decide what information needs to be gathered;
- communicate openly about individual likes and dislikes; and,
- engage in team activities that build trust and communication.

2. Stage two: Storming

In the storming stage, team members realize that the task is more difficult than they imagined. Members may be resistant to the task and fall back into their respective comfort zones. There are sharp fluctuations in attitude about the team and the project's chance of success. Communication is poor with little listening occurring. Among team members there is disunity increased tension, and conflict which divide the group. Collaboration between members is minimal and cliques start to appear. The following actions are recommended at this stage:

- ensure forming stage issues are answered;
- re-establish, clarify, or modify ground rules (norms);
- negotiate roles and responsibilities; and,
- listen, listen, listen.

3. Stage three: Norming

In the norming stage, team members accept the team, team ground rules, their roles on the team, and the individuality of fellow members. Competitive relationships become more cooperative. There is a willingness to confront issues and solve problems. Conflicts are avoided by expressing criticism constructively. There is more sharing and a sense of team spirit. As team members become more comfortable in working together, they have more time and energy to spend on the project and are able to make significant progress.

Recommended actions are:

- do detailed planning;
- develop criteria for completion of goals;
- build on positive norms and change unhealthy norms; and
- encourage continued team spirit.

4. Stage four: Performing

In the performing stage, team members have gained insight into personal and team processes and have a better understanding of each other's strengths and weaknesses. They have gained the ability to prevent or work through group conflict. Members have learned how to resolve differences and they develop a close attachment to the team. The team is now an effective, cohesive unit; they can begin performing.

- emphasize quality work;
- utilize each member's talents;
- meet deadlines; and
- continue to work on team commitment.

The duration and intensity of these stages vary from one team to the next. It may take months for one team to reach the performing stage, while another team is "performing" within a few weeks. Knowing that it is normal for a team to go through these stages will help your team understand and anticipate the process, and take action to build a more productive working relationship.

The teaming process can be compared to a roller coaster ride. Progress will often proceed from climbing to stalling to falling. Feelings may go from excited, as the project begins; to bored or impatient, as team members realize the enormity of the project; to encouraged, as useful data and information is gathered; to frustrated, as a team meets roadblocks and has to formulate a plan to meet often and engage in open communication. Norms (the team's ground rules) need to be established early and then revisited and revised at different points in the year. Make diversity among individuals work for the team by making an effort to use the unique talents of everyone on the team. Understand what is expected and follow through by being dependable. A team member's failure to play his or her part will often pull the team down as other team members abandon their duties to cover. On the other hand, personal sacrifice for the team will be recognized and result in trust and support when needed.

5. Establishing a team leader

Among university students working in project teams it has often been observed that teams who appoint by mutual agreement a team leader frequently out-perform teams that choose to proceed along more democratic lines and try to share the leadership role. This decision about leadership needs as soon as possible in the life of the team. Typically the responsibilities of a team leader in this situation include:

- encouraging and maintaining open communication;
- helping the team develop and follow team norms;
- helping the team focus on the task;
- recognizing stages of team development;
- actively listening; and,
- dealing constructively with conflict.