

How might university students working on class projects in teams have a communicative, supportive team experience to complete their project?

Context

Why does this problem matter? What is the need not being met? What is the impact of inaction?

Many college students have had at least one bad team experience. According to an online survey we conducted consisting of 30 University of Washington students, approximately 40% of respondents said that their biggest pain point was communication, and another 30% of respondents said their pain-point was the equity of work among team members.

From our research, we found that there are currently no solutions that offer structured guidance for team collaboration specifically focused on classes. Consequently, students have resorted to using various task management and communication platforms to manage the teams in their classes, such as Slack and Notion. These platforms only provide the basic means of communication and task management without giving teams advice on how they can set goals, communicate, and work together effectively.

Our solution is going to be a mobile-first web application that gives relevant guidance for how teams can work together, build meaningful connections and work with a successful project. We aim to address the issues of communication, equity of work, and team cohesion with this solution.

First, we aim to provide a structured team agreement form for teams to fill out and agree upon before starting their first assignment in their project. This will help guide team members to establish expectations that they should follow from beginning to end of the project.

Second, we want teams to explicitly delegate tasks throughout each assignment sprint so that everyone knows their responsibility, with some way of altering the roles of the members in the team. This helps team members feel a sense of ownership in the project.

Lastly, we want to promote open, reflective feedback in a safe, non-judgmental space amongst team members to discuss project issues, questions, and overall team progress. This will allow for teams to develop their skills and review their effectiveness, rather than just continuing their routine tasks.

Afonso, E., Carro, R.M., Martin, E. et al. The impact of learning styles on student grouping for collaborative learning: a case study. *User Model User-Adap Inter* 16, 377–401 (2006). <https://doi.org/10.1007/s11257-006-9012-7>

Harvard Business Review. [High-Performing Teams Need Psychological Safety](#).

ReWork. [The five keys to a successful team](#).


Tseang, H., Ku, H. Y., Wang, C. H., & Sun, L. (2009). Key factors in online collaboration and their relationship to teamwork satisfaction: Quarterly Review of Distance Education, 10(2). <https://doi.org/10.1080/14925800802685928>

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graph TD
    Root[How to design a research project] --> A[Identify research activity]
    Root --> B[What makes a team work well together?]
    
    A --> A1[What process do students go through to find a team?]
    A --> A2[What does group work achieve that has outside of each member?]
    A --> A3[What groups of people are finding trouble finding for research?]
    
    B --> B1[What makes a team work well together?]
    B --> B2[How are teams formed in classes?]
    
    A1 --> A1a[Find their closest friends]
    A1 --> A1b[Find via Canvas People's network]
    A1 --> A1c[Find a group based on project interests]
    A1 --> A1d[Try to form a balance of skill sets on the team]
    
    A1a --- A1a1[Let us know if you have a teamwork or change]
    A1a1 --- A1a2[Consider using the Canvas People's network for projects]
    
    A2 --> A2a[Students on their own]
    A2a --- A2a1[You're getting the most out of your own]
    
    A3 --> A3a[Students enrolled in TAC200 level courses]
    A3a --- A3a1[Market research on team teaching apps]
    A3a1 --- A3a2[Market research on different demographics that look for teams]
    A3 --> A3b[People don't know anyone before enrolling in a class]
    A3b --- A3b1[People wanting a new field and wants personal development experience]
    A3b1 --- A3b2[People who are introverted or less sociable]
    
    B1 --> B1a[Group members have the same work ethic/style]
    B1a --- B1a1[Look for students with different styles]
    B1 --> B1b[Each group member specializing in a subject]
    B1b --- B1b1[Consider people with different strengths for teams]
    B1 --> B1c[Effective Communication]
    
    B2 --> B2a[Randomly assigned by their professor]
    B2a --- B2a1[Ask professors if they have ideas for their class]
    B2a1 --- B2a2[Ask professors if they have projects they want to do]
    B2a2 --- B2a3[Let students find their own teams and professional advice]
    B2 --> B2b[Happen to be the people seated around you]
    B2b --- B2b1[Instructor allows students to choose their groups]
  
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How to design a research project

- Identify research activity**
 - What process do students go through to find a team?**
 - Find their closest friends
 - Let us know if you have a teamwork or change
 - Consider using the Canvas People's network for projects
 - Find via Canvas People's network
 - Find a group based on project interests
 - Try to form a balance of skill sets on the team
 - What does group work achieve that has outside of each member?**
 - Students on their own
 - You're getting the most out of your own
 - What groups of people are finding trouble finding for research?**
 - Students enrolled in TAC200 level courses
 - Market research on team teaching apps
 - Market research on different demographics that look for teams
 - People don't know anyone before enrolling in a class
 - People wanting a new field and wants personal development experience
 - People who are introverted or less sociable
- What makes a team work well together?**
 - Group members have the same work ethic/style
 - Look for students with different styles
 - Each group member specializing in a subject
 - Consider people with different strengths for teams
 - Effective Communication
- How are teams formed in classes?**
 - Randomly assigned by their professor
 - Ask professors if they have ideas for their class
 - Ask professors if they have projects they want to do
 - Let students find their own teams and professional advice
 - Happen to be the people seated around you
 - Instructor allows students to choose their groups



Project
Project plan
Project charter

Design
Requirements
Design document

Development
Code development
Code review

Testing
Unit testing
Integration testing

Deployment
Deployment plan
Deployment

Project
Project plan
Project charter


Design
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Code development
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Unit testing
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Deployment
Deployment plan
Deployment

Nonio Fendi



Example

- 1. for students of higher education
- 2. in the first year of the course
- 3. objectives focus on the team and highlights their own
- 4. weekly summary email
- 5. work distribution sheet

Features

- 2. Double-click on each for both professional and students
- 3. on the features for team management, and assigning assignee/project deadlines

Costs

- 1. € 2000
- 2. a lot of functions, can be overwhelming for first time user

Artifacts

- 1. Menu for professional company use
- 2. questionnaire with all services for teams
- 3. feedback form

Pros

- 1. really good platform for companies with departments, marketing, product, etc.
- 2. amazing website, has tons of content
- 3. free version
- 4. more content based companies should try but have an individual/team feature

Cons

- 1. can't browse other projects and software use

Uncertainties


- 1. look a decent future like trials, backlogs, stories, version releases track, and liberally
- 2. many more look at available

Price

- 1. great for tech teams
- 2. great for training software of a project

Goals

- 1. great only for tech software dev
- 2. great for training software of a project because of the detailed features



Nonio Fendi

Features

- 1. can browse other projects and software use

Uncertainties

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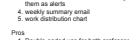
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Ulr Software



Example

- 1. for business and Project
- 2. for business and Project
- 3. for business and Project
- 4. for business and Project
- 5. for business and Project

Features

- 1. for business and Project
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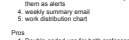
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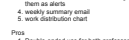
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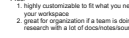
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[illegible]

Teamwork

agreement by topic, private groups, and direct messaging

clients to post information about themselves to match with people on the interface

to reduce the need for student posted message

to encourage a search for self-connection

results. Make it hard to find research information based on results.

Events, Taking in Classrooms in Class (In-Person)

to be able to make a connection between the two groups ships, understand other perspectives, and engage other people

interaction enables stronger connections

and information they would not have technological constraints

of other disciplines

to be the most suitable partners

to be professionals to connect with past and current colleagues in the industry

to be able to find new ideas

users can be established user base

existing contacts

being working experience and projects a user has done

users can be hard to search for someone, especially if they have a name

Web/ Social

educators and students to start and contribute to as many connections as possible

as an assignment for grading purposes or serve as forum for other users

ed by numerous individuals

to be able to find new ideas

focus on organized or focused or broadened discussions

provided by established courses

search with notifications after applying to a discussion thread

Learning Tools

decentralized

decentral, and central communication across an organization

starting course, ways to be

discussion for group of users within same board

users may have users are actively working on the same board or other text within all objects

Collaborative

Collaborative

Explore and join established groups who are centralized a single topic

Search and preview servers prior to joining

Pros:

- Communities are well-organized and cover nearly every topic
- Largely community run, requiring little intervention or assistance
- Customizable by the community to fit their needs

Cons:

- Some communities can take a while to find smaller teams
- Finding larger servers is easier, but discovering smaller ones is difficult
- New users must adjust to norms already set, have little to no influence or say

Public Groups

Pros:

- Find public for topics and submit posts to collaborate with others
- Filter by different languages or topics of interest

Open and free form, can contribute to a group without needing to know other people

Can learn programming skills and how to code with others

Cons:

- A large knowledge group that many people
- Collaboration is largely disorganized and involves little person-to-person interaction
- Can be daunting for new users to get started

MMIO Group (LIVE WWW/2D/3D/Video)

Functionalities:

- Automated matchmaking for groups looking to complete specific content
- Tailored to fit roles based on your current skillset, i.e. class

Pros:

- Automation and low commitment, making it easy to jump into
- Matchmaking ensures a well-balanced group can complete a given task
- Can take video skill levels into account, ensuring help throughout

Cons:

- Low commitment and short, doesn't always build connections beyond 30 min.
- Can be mismatched based on personalities, leading to toxic behavior
- Only resources are to conform to group rules, no middle ground

Web/ Social

Functionalities:

- Matchmaking with other players based on similar games and profile
- Instant chat
- Dead, trade-like interface

Pros:

- Preview teammates before meeting with them
- Easy to communicate and play games together

Cons:

- Hyper-focus on single games, leaving little room to explore other topics
- Surface appearance meeting could lead to bad matches and poor on game plays

Team Building Workshops (College/Entrepreneur)

Functionalities:

- Customizable service focusing on teamwork cohesion in established teams
- Can be unique for organizations

Pros:

- Tailored approach can give a great experience for a team
- Can bring a team together, improving work performance in the long term

Cons:

- Expensive for short sessions
- Service effectiveness is dependent on the team and service provider, consistency
- Not guaranteed to solve a teams issues but may be needed deeper than cohesion

[illegible]

Identify values held by your team, your sponsor or key stakeholders (this could be investors, an industry, and your users. Use the highlighter to note values that conflict. Conflicting values will alert you to potential ethical questions that you will need to resolve.

Potential Exposure of Personal Information

Fulfills a need	Diversity of users	creating for the users over all else
Sustainability	Transparency	

Potential Exposure of Personal Information

Simplicity	Team viability	Usability
Sustainability for users	Diversity	

Potential Exposure of Personal Information

Inclusivity	Autism Acceptance	Fair Teams Assignment
Equality	Easy understanding	Clear communication
Flexibility from other users	Democracy	

Potential Exposure of Personal Information

Inclusivity	Autism Acceptance	Fair Teams Assignment
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Flexibility from other users	Democracy	

Identify one or more ethical considerations that threaten your project's potential for positive impact.

Ethical considerations

Potential Exposure of Personal Information

Worst case scenario

What is the worst that can happen?

Best case scenario

What is the best that can happen?

Identify strengths for your project

Identify weaknesses for your project

Present & Discuss as a team

Capture strengths as a team

Capture weaknesses as a team

Summary

Learning objectives

Strengths

- Similar interest and passion
- Set clear project goals/objectives early
- Establish a timeline
- They find teams randomly (who is sitting next to them)
- less long term projects unlike tech majors
- Most STEM majors like working in groups

Weaknesses

- having a leader who delegates work and initiates work is good
- People like having established roles within a team
- people are still willing to work with random people that they just meet in class
- Teamwork is important to business majors
- Clear communication is clear expectations
- Most students do not work on projects outside of school

Summary

- What school do you attend?
- What is your major?
- Would you consider your major to be a tech major or non-tech major? If collected, what's "non-tech"?
- What year of school are you in?
- How often do you work in teams in your major?
- How often do you work with a team for a project not related to class?
- On a scale of 1-5 (1 being negligible and 5 being considerable, how would you rate your experience?
- How do you go about finding teams? Check it that way?
- Given the following attributes of a person you do not know, how would you rate them from most important (1) to least important (5) when considering them as your teammate?

Learning objectives

- When working in a team, what has been the biggest pain point that you've experienced?
- Do you know of any platforms that assist with team formation (e.g. Piazza for them below)?
- Is there anything you would like to share about your experience in finding and/or working in teams?

Takeaways

- Takeaways from the performance class
- Less of communication
- Can't force someone to take initiative
- People enjoy using what they already use
- Can't force someone to communicate

Student

- Good opportunities inking in forming strong bonds
- Similar interests and breadth of skills are brought after the longer projects
- Possible ice-breakers in team building activities built in

- Setting to know your team: Personalized questions make the most important
- Connect with graduates over natural possible representation

- Possible opportunity to provide help the team for learning lessons on their own