

University of Ottawa | Université d'Ottawa

GNG2101 | Fall 2022



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GNG2101

**Introduction to Product Development and Management for Engineers and
Computer Scientist**

Course Professor: Dr. Emmanuel Bouendeu

Deliverable A

Team Contract, Client Meeting Preparation and Project Management Skeleton

Presented to: Melika Ataebi

Prepared by Group B12

Team Members:

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Date: September 18, 2022

TEAM CONTRACT

GNG2101, Section # B01

Team Members:

- 1) Laura Keryakes
- 2) Vivethen Balachandiran
- 3) Yassine Ouloum
- 4) Jiayi Ma
- 5) Chelse Rose Vadakkeveettilan Hilariyos

Suggested Projects:

- 1st choice: Athlete Stats
- 2nd choice: _____
- 3rd choice: _____

Team Procedures

1. Day, time, and place for regular **team meetings**:
There will be frequent messaging in the group communication platforms that will allow the team to plan specific meeting times based on the urgency of impending deadlines and also just for general project deliverable work. Meeting will commonly happen on Discord or in person.
Monday: 2pm-2:30pm, in person (a quick short meeting where we will be separating the tasks among us for the next deliverable).
Saturday: 10am-11am, on Discord (a longer meeting where we gather all the work we have done separately and discuss on how to finalize the project deliverable).
2. Preferred method of **communication** (e.g. e-mail, cell phone, Facebook, Blackboard Discussion Board, face-to-face, in a certain class) in order to discuss the project and to inform each other of team meetings, announcement, updates, reminders, problems:
We will be mainly using Discord to hold the regular weekly meetings and chat concerning the project deliverables. Discord is a good platform as it has the chatting, screen sharing and voice calling option.
3. **Decision-making policy** (by consensus? by majority vote?):
Making decisions will generally be by consensus in order to avoid any possible conflict and make sure that the plan works for everyone. Everyone will therefore have a chance to voice their opinion so that all team members are satisfied with the decisions made.
4. Method for setting and following meeting **agendas** (Who will set each agenda? When? How will team members be notified/reminded? Who will be responsible for the team following the

agenda during a team meeting? What will be done to keep the team on track during a meeting?):

Agendas would not be done by one person but made and discussed as a team on Wrike. The agenda would be made every Saturday as a team to plan the upcoming week. This solution not only takes pressure off of the owner of the Wrike channel, but it also allows everyone to be aware of what each individual needs at any time. However, Laura will be the member of our team that will essentially be responsible for checking the proper integration of the Wrike channel and that each individual task is assigned to a member of the team. Changes to the schedule by anyone will be posted in the Discord chat forum so that everyone is continually updated, especially when it comes to task dependencies. We will also check in with each other on the forum by stating at approximately what time we will be done with our task.

5. Method of **record keeping** (Who will be responsible for recording & disseminating minutes? How & when will the minutes be disseminated? Where will all agendas & minutes be kept?):

Although Yassine will be concluding the meeting minutes and ensuring proper organization, we will each be writing on a common document what we each did during that meeting. This will ensure that the record keeping is both specific and relevant to each person and their contribution to the team. The agendas and minutes will be kept on the team's Google Drive, where we keep all of our relevant documents concerning this semester's project. This will help us in seeing the progress of the team as a whole and it also ensures some sort of autonomy for each team member.

Team Expectations

Work Quality

1. **Project standards** (What is a realistic level of quality for team presentations, collaborative writing, individual research, preparation of drafts, peer reviews, etc.):
We are expecting high quality work to be delivered. By high quality of work, we specifically mean that we will be putting in the same amount of effort which is required to satisfy the client's standards and expectations. Client satisfaction includes making sure that all deliverables are clear and understandable to the client and that their needs are sought after in our product. We are planning to split tasks based on the strengths of each of the team members. Given any time constraints and resources at our disposal, we are inclined to help split the workload in such a way to help whoever thinks they are not going to make it on time for the due date. That way, if any team member is struggling, they will not be intimidated to voice their difficulties which will ensure a good work flow of the team.
2. **Strategies** to fulfill these standards:

Communicating with one another on a regular basis to decide who would be best fit for certain tasks; looking out for the strengths and weaknesses of each team member and using that to our advantage. We would also help each other when needed, and be flexible and ready to adapt to changes. As the tasks list grows longer for each project deliverable, it will also be important for us to ensure a priority list of all the tasks. Furthermore, if there are any issues it will be imperative for us to resolve them as soon as possible and to not let it accumulate. We will also meet ahead of the deadline to plan and attribute each task to the team, making sure that everyone understands what there is to do and that the expectations of the quality of work is clear (this will usually be done a week ahead of the deadline). Finally, we will always review the deliverables one last time as a group before the deadline (this will be done one day before the deadline).

Team Participation

1. Strategies to ensure cooperation and equal distribution of tasks:
We will be having a discussion on the tasks and the team members' strengths to optimally assign work to everyone, a Discord chat will be used to have instantaneous communication when needed for help or keeping everyone linked. We will also make sure that everyone is satisfied with the work assigned to them and redistribute the work accordingly if any issues arise. The tasks will be assigned early on (at least a week in advance) so that each team member can be aware of what they are assigned to do.
2. Strategies for encouraging/including ideas from all team members (team maintenance):
We will each have to present an idea at least once during each meeting. This will ensure that nobody is scared of speaking and sharing their opinion. When someone is presenting an idea, we will portray any judgment nor will we analyze the idea until we are satisfied with what we have shared within the team. This will ensure regular participation from the whole team and ensures that everyone's effort to provide ideas will always be taken into account such that they feel a part of the team rather than alienated.
3. Strategies for keeping on task (task maintenance):
There will be frequent checkups on everyone's progress/plans through Discord messages to talk about what is done, what needs to be done and if there were any challenges along the way. In order to keep on task, it is also important that we agree on a specific time limit in which to accomplish a specific amount of work so that the ability to get off task is limited by time constraints. In this case, we have decided that all tasks will have to be completed at most on Saturday (a day before the deadline), such that when we meet all together on that day, the meeting can be productive and we can discuss future tasks we have to complete for the next deliverable (instead of having to complete tasks at the last minute). If there are task dependencies, those who are assigned with these tasks will have to discuss with each other to ensure that both of the tasks are completed for Saturday as well.

4. Preferences for leadership (informal, formal, individual, shared):
We prefer shared leadership, a bit informal, where group members will naturally guide others when they need help/assistance such that there is no constant leader in the team. This assures that there will not be conflicts coming up in relation to the “leader’s” perceived competence.

Personal Accountability

1. Expected individual attendance, punctuality, and participation at all team meetings:
We expect attendance to every meeting on time, and equal participation, which should be significant and match the workload of the course, from all team members. Meetings will always be planned early on, thus if someone is not able to join the meeting, they should be able to alert us early on so that the rest of the team can organize themselves around it. A 24-hour notice is expected from those who cannot make it to the meeting. We also expect organization and good time management so assignments and exams will rarely stand as valid excuses for absence and lack of participation.
2. Expected level of responsibility for fulfilling team assignments, timelines, and deadlines:
High level of responsibility is always expected. Also, tasks should be completed on time and if more time/assistance is needed, the team member should inform the rest of the team as soon as they encounter any difficulty (ie., leaving the task for the meeting on Saturday is not allowed as it will disrupt the work flow instilled). This way, it ensures proper communication amongst the team members and also ensures that each team member can trust that there will always be help available. It is also important that we continually complete tasks earlier rather than later so that if there are any problems that might arise, we are not worried about the deadline closing in (as mentioned above, all tasks need to be completed at least one to two days ahead). Some work may be reliant on others’ work so having a schedule and following it are crucial for the team’s success.
3. Expected level of communication with other team members:
We expect everyone to be as open with one another as you would be with your best friend. Thus, if anything that impacts the group might happen, everyone should immediately be aware of it, so that the team can work around it and solve the issue before the deadline closes in. We will always communicate any challenges, successes, and for any assistance needed along the way. Frequent checkups, at least twice a week, through messages in Discord will help accomplish this.
4. Expected level of commitment to team decisions and tasks:
Highest level of commitment is expected, everyone is expected to follow through on decisions made as a team and any contradictions should be told upfront to prevent any

misunderstandings with one another. We decided with this approach since all decisions will be made in a democratic way, which means that everyone's opinion on a specific decision will be taken into account (even if they are the minority of that decision).

Consequences for Failing to Follow Procedures and Fulfill Expectations

1. Describe, as a group, how you would handle **infractions** of any of the obligations of this team contract:

In case no valid excuse was presented and accepted by the whole team, a warning will be given to the person that committed the infraction. We will have a meeting with that person to understand their point of view and to understand how the issue will be addressed. It is important to talk over with them on why and how they did not meet their duties properly and why that conduct is unacceptable.

2. Describe what your team will do **if the infractions continue**:

If the infractions continue, then there will be no choice but to contact the TA/PM that handles our group to help get the group member back to helping equally or to get them out of the group depending on the number of occurrences.

- a) *I participated in formulating the standards, roles, and procedures as stated in this contract.*
- b) *I understand that I am obligated to abide by these terms and conditions.*
- c) *I understand that if I do not abide by these terms and conditions, I will suffer the consequences as stated in this contract.*

- 1) Laura Keryakes date 09/17/2022
- 2) Vivethen Balachandiran date 09/17/2022
- 3) Yassine Ouloum date 09/17/2022
- 4) Jiayi Ma date 09/17/2022
- 5) Chelse Rose Vadakkeveettilan Hilariyos date 09/17/2022

* This template was adapted from https://cns.utexas.edu/images/CNS/TIDES/teaching-portal/Team_Contract.doc

CLIENT MEETING PREPARATION

What We Know

We know that our user will be any athlete that is looking to improve their performance. Therefore, all the sports must be taken into account for us to fully understand how it can be accessible for these athletes. However, the client (the one buying the product) is not limited to the athlete, as it can also be the coaches, the team league advisor, sponsors and more.

The product may need to be either attached to the equipment used by the athlete or themselves (if they do not have any equipment used during the sport). It has to be small, waterproof and lightweight; adaptable to any sort of sport.

What We Do Not Know

- What information the client requires in terms of performance.
- If they had any experience with past products that measured their performance.
- If different information is required depending on who is using the product (athlete vs coach).
- How does it need to be attached (or does it need to be attached).
- How will the data be collected (is there a specific software that they need).
- How do they want the data to be organized when they receive it.
- How accessible does it need to be for each athlete (is there some sort of baseline that we need to achieve).

Tools and Method Used

Client/user stories will help us delve deeper into understanding what their needs are. As they elaborate on their story, we can look for non-verbal cues, such as their emotions while storytelling, their body language and more.

Engage with the client in such a way that it is not a formal interview, but rather a conversation where we go back and forth with them. This will help us have a better engagement with the client.

- We need to remember to ask specific questions, so that we receive specific answers to what we need to know.
- Let them talk, even when there is silence, since they can fill that silence with even more information.
- Pay attention to body language, and cues that may indicate a feeling towards the product (positive or negative)
- Ask open-ended questions to retrieve the most information possible.

- Avoid bias/judgment; it is their story and their experience and therefore it is important to stay respectful.
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Interview Guide

Rough Interview Path

(Percentage represents the time taken from the entire interview)

1. Measuring Performance: 40%
2. Data Output: 35%
3. Accessibility: 15%
4. Requirements Priority: 10%

Specific questions:

Measuring Performance

MOSTLY SWINGING SPORTS

1. What does the product have to measure in terms of performance?
 Open to interpretation
 Velocity/acceleration
 Impact -> force produced during the hit
 Swing analysis: tennis, hockey; choose a specific sport and focus on that one (Client has no preference)
 Easier on an equipment (attaching to someone would be harder, more variables to take into account)
 Athletic testing: 3 times a season, to see progress; more than that you won't get valid information
 We can test it on ourselves, but we want to be within the range of proper athlete testing. Check range (voltage, current) to see if it's strong enough to determine that testing
 Within our realm of our skills
2. Are there any products in the past that you have used to measure performance? What did you or did not like about that product?
 Tracking on a helmet instead of actual device: concussion testing, data for impact during sports.
 Lacks: only had 4 months, technology used wasn't the best -> Arduino sensors
3. How did you come to terms that this product was imperative to help measure performance? Were there subsequent events that lead to that?
4. Will the product be used by the athlete or the coach? What information do both parties need?
 Up to our interpretation -> same data can be accessible but maybe too much information won't be helpful because they won't understand what it means.

Data Output

5. How would you like the output to be presented? (after every swing, or the best out of 10 swings, etc)

Output was Arduino based

Chip make it bluetooth, can't interfere with the swing, not too heavy

No camera tracking required

6. What software do you use to store and analyze the data acquired from the product? Any preference?

Graph would be better to portray data -> coach and athlete are more adept in understanding.

Specific data may not be accessible for understanding

Get value and compare the data with other athletes -> output max and min value.

Normalize data over the weight of the athletes

For coaches and athletes: 'dumb it down' Change the units, not the actual scale. Depends on who the users are.

Comparison of data= HIGHEST NEED; compare between teams or compare between time? Helpful data is found amongst the team itself -> do not focus on a specific person, better to have more data within the team.

Have a website where all info is stored on; amateur teams vs pro teams, see everything at once.

Compare different types of swings

If you have enough trials, code the velocity pattern of the swings to be able to recognize what these swings are.

Accessibility

7. How accessible does the product need to be in terms of athletes who have disabilities? Is there some sort of baseline that needs to be achieved?

Same device can be used for the athletes that are wheelchair bound.

Have it speak the command -> for blind

Requirement Priority

8. Is it of priority for the product to be attached to the piece of equipment?

Yes.

No requirements for the materials used

Sustainable, environmentally friendly

PICK SPORT FIRST, THEN SEE WHAT CAN BE HELPFUL FOR ATHLETE OR COACH REGARDING DATA

MAKE IT MORE SPECIFIC, ABLE TO TEST ONLY A COUPLE OF THINGS OF A SINGLE SPORT

WANT TO SEE DATA, CHECK IF IT GIVES CONSISTENT RESULTS, REASONABLE DATA -> WILL FOCUS ON THE TESTING WE DID AND CHECK TO SEE HOW IT MATCHES WITH REAL WORLD CONSTRAINTS

TARGET SPECS, CONSTRAINTS, WHAT WE HOPE TO ACHIEVE FOR NEXT MEET

PROJECT MANAGEMENT SKELETON

Link to our Project Management Skeleton on Wrike:

<https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=3ZuCIXQQNvDpDWrxwmitJhxfZXIJUf18%7CIE2DSNZVHA2DELSTGIYA>