

University of New Hampshire  
**University of New Hampshire Scholars' Repository**

---

Honors Theses and Capstones

Student Scholarship

---

Fall 2016

# freeUP: Productivity Made Possible

Nicole E. Meyers  
[nea36@wildcats.unh.edu](mailto:nea36@wildcats.unh.edu)

Follow this and additional works at: <https://scholars.unh.edu/honors>

 Part of the [Business Administration, Management, and Operations Commons](#)

---

## Recommended Citation

Meyers, Nicole E., "freeUP: Productivity Made Possible" (2016). *Honors Theses and Capstones*. 319.  
<https://scholars.unh.edu/honors/319>

This Senior Honors Thesis is brought to you for free and open access by the Student Scholarship at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Honors Theses and Capstones by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact [nicole.hentz@unh.edu](mailto:nicole.hentz@unh.edu).

# freeUP

*Productivity Made Possible*

*Composed by:*

**Nicole Meyers**

*in conjunction with*

**Jordan Howard-Collins**

**Advisor:** Vanessa Druskat

**Secondary Advisor:** Kholekile Gwebu

## **Abstract**

As education evolves, more and more emphasis is placed upon group projects. With group projects come diversity, in-depth learning, open-mindedness, and many added stressors. One of the main causes of these stresses, as concluded in this thesis, is the task of scheduling. What if there was an app that you could download to schedule those group meetings for you? Well, there is! freeUP is an application that links to your school's learning platform (for example, Blackboard or Canvas) to make scheduling meetings easy and more productive. freeUP will provide much needed answers to today's top group work problems: scheduling, effective communication, and accountability. This thesis will illustrate the research and findings of a study launched specifically around group work and technology. This research was conducted around group work in general, as well as targeting the value added by using technology to alleviate the pain points of group work. The purpose of this research is to examine how freeUP can help improve team coordination challenges and effective meeting management. These problems, or themes, and the functionalities derived from their solutions, will be discussed in detail throughout this thesis.

## Table of Contents

<b>Introduction</b> .....	<b>3</b>
<b>Literature Review: Effective Team Coordination</b> .....	<b>4</b>
Sharing a Purpose and Having Unified Goals .....	5
Clearly Defining Roles and Responsibilities.....	10
Identifying Suitable Leadership Positions .....	13
Appropriate Communication Among Members .....	15
Motivating Members in a Supportive Team Climate .....	18
<b>Literature Review: Leading Effective Team Meetings</b> .....	<b>20</b>
Organize and Plan the Meeting Details.....	21
Assign Administrative Roles .....	26
Assign Action Items .....	27
Avoid Distractions .....	28
Evaluate for Improvement .....	30
<b>Survey and Interview Gathered Data</b> .....	<b>33</b>
Research Procedure .....	33
Research Findings.....	34
<b>Functionality of Application Based on Literature Reviews and Gathered Data</b> .....	<b>39</b>
Meeting Details .....	39
Productivity .....	41
Social Aspect.....	43
<b>Conclusion</b> .....	<b>44</b>
<b>Appendix</b> .....	<b>45</b>

## **Introduction**

With globalization, external pressures to bring new and innovative products to the market, and increasingly complex work environments, organizations are placing a higher emphasis on teamwork to more effectively and efficiently overcome these challenges. Collaboration and teamwork has become the norm in the business world today. Incorporating teams of individuals from diverse backgrounds has helped organizations become more innovative and find creative solutions to improve their business. Universities are recognizing this shift toward teamwork and have integrated group projects into their curriculum. They understand the need for students to collaborate with a diverse group of people, communicate effectively, manage relationships, and become a strong team member in order to succeed in today's business world. Common undergraduate group projects at the Peter T. Paul College of Business and Economics include case studies, presentations, business proposals, marketing plans, and other in-depth research projects based on students' concentrations within the college. Students are able to learn how to work with different types of people, develop the skills needed to effectively coordinate with others, understand how to better manage their time, and delegate responsibilities based on member's strengths. Although not all group projects are successful or synergistic, the experiences and skills students learn will greatly help them in the "real world" where they will be working with many different people, sometimes with differing views, personalities, or goals.

Group projects bring with them the challenges of remaining open-minded among diverse perspectives and ideas, more in-depth learning, and a great deal of added stress. Based on a survey conducted for this thesis, 62.6% of 123 students from the University of New Hampshire demonstrated that the added stress stems from two main issues: scheduling and delegating the work load. Although students need to learn how to deal with these conflicts, advancements in

technology can be an easy way to help decrease these stressors and improve the outcome of group projects. If less time is allocated to scheduling and delegation, more time can be devoted to the actual task, which can lead to higher productivity and ultimately a better project grade.

The skills and experiences required to effectively schedule and delegate work when collaborating with others can help build stronger and more capable team members. Without eliminating the potential for students to learn these skills, a new application called freeUP can be used to enhance the productivity and cohesion of group work by minimizing unnecessary stress. The purpose of this research is to examine how freeUP can help improve team coordination challenges as well as effective meeting management. Before constructing the application, it is important to understand the rationale and purpose for its functionality. This research will be used for identifying additional tools and improvements for freeUP and for investigating the effective use and marketing of the application. Based on literature reviews surrounding effective team coordination and team meetings and conducted research with current students at the University of New Hampshire, the appropriate and applicable functions can be identified and integrated into freeUP to best fit student needs.

### **Literature Review: Effective Team Coordination**

Before determining the specific functions to build into freeUP, it is important to identify specifically what makes teams coordinate effectively. A “team” is defined as “a group of people who: view themselves, and are viewed by others, as a social entity; engage in interdependent tasks that require cooperation; are embedded in one or more larger social systems (e.g., a classroom, community or organization), and perform tasks that affect others (e.g., customers, professors, etc.)” (Guzzo & Dickson, 1996). Thinking broadly, a team could be a group of top-level managers attempting to increase sales, a football team trying to win their championship

game, a group of volunteers raising awareness for a social cause, or simply a few friends working together to plan a special birthday surprise for their roommate. All of these types of teams, including college students participating in a group project, have five characteristics that will help them achieve effective team coordination. According to a literature review of articles written by business professionals, managers, and organizations committed to improving team coordination, the five characteristics include: sharing a purpose and unified goals, clearly defining roles and responsibilities, identifying suitable leadership positions, having appropriate communication among members, and motivating members in a supportive team climate.

### *Sharing a Purpose and Unified Goals*

The first step in building effective team coordination is setting a common purpose and a set of shared goals. Whether this is done formally in a written memo to senior managers or is just stated in conversation among a group of friends, it is important to be working toward understood and agreed upon objectives. According to the Council on Medical Student Education in Pediatrics (COMSEP), which is an organization whose best work comes as a result of highly effective teams who constantly evaluate how to increase their coordination, all team members need to be involved in the purpose and goal development process to ensure all members can articulate and agree on the team's intent (Bannister, Wickenheiser & Keegan, 2014). If members have different understandings or do not agree on the team's common purpose, confusion, conflict, and wasted resources are inevitable (Bannister, Wickenheiser & Keegan, 2014). The idea behind teamwork is to achieve an outcome that is more than what one individual can complete on their own. If one or more members are not working toward the same goal or do not have the same purpose driving their actions, the outcome may not be as successful or complete. If one member strays from the agreed upon purpose while the other members are still working

hard toward their goals, it will take extra effort to get the individual back on track and restate the initiatives to them. The effort, time, and resources used to bring members back on track could have been better used to work on the task at hand, complete projects faster, or ultimately have a better outcome. It is important to use the resources, time, and skills of the team strategically to ensure the team produces the most successful outcome possible. If members are not in agreement about the team's purpose, are confused about the goals, or simply have their own agenda for the team, resources will not be allocated efficiently and efforts may be wasted that could impede the team's success.

But how do teams set these goals and determine an overarching purpose? The COMSEP says that it is best to have all members involved in the purpose and goal setting process so individuals can voice their opinions, concerns, and agreeability initially (Bannister, Wickenheiser & Keegan, 2014). Carter McNamara, co-founder of Authenticity Consulting, which provides organizational and leadership development, team building, and group coaching services to improve team performance, also strongly believes that input should be included from all members when designing purposes and goals (McNamara, 2016). When teams are too large, if members are located in different countries with conflicting time zones, or if goals need to be defined immediately, it may not be possible to have every member involved in the process. When this is the case, Tara Duggan, a project management professional specializing in instructional design and knowledge management, believes it is best to develop a comprehensive plan to describe the work involved for each goal and have all members review the plan to ensure there is no confusion or opposition about what needs to be done (Duggan, 2016). If there is resistance to the plan, conversations and negotiations need to take place to either persuade the



member to be on board with the plan, alter the goals and purpose, or when necessary, replace the team member.

Both Malik Bilal, a senior executive of Human Resources at NetKom and Human Resource Management professor at the SUIS College of Management Sciences, and Tara Duggan agree that it is best to assign a coordinator to summarize and communicate a clear picture of what the team expects from its' members (Bilal, 2014; Duggan, 2016). The coordinator should encourage questions from members who were not involved in the purpose and goal development process to reveal their misunderstandings, doubts, or oppositions (Bilal, 2014). Making sure all members are aligned with the purpose and goals of the team ensures that all efforts are focused in the same direction to achieve maximum team success.

When setting goals, whether with all members present or with a few individuals who will later communicate the plans to the team, they need to be clear and descriptive so all members fully understand what they are working toward. Members could all agree on a set of goals or a purpose, but if all their interpretations are different, they are not truly working toward the same objectives. To ensure that all members have the same understanding of the goals, McNamara suggests designing them to be SMART: specific, measurable, achievable, relevant, and time-bound (McNamara, 2016). This framework ensures that the goals have enough detail so all members have the same idea of what the objective is, can be measured to determine its progress or success, can be completed considering the team's skills and resource constraints, pertains to the purpose of the team, and has a specific deadline to keep members accountable. There may not be a way to track the progress of the team or measure its ongoing effectiveness if there is no deadline or measurable mean to evaluate members' efforts (McNamara, 2016). Bilal says that "the successful team not only knows where it is going, it knows when it has arrived" (Bilal,

2014). By making goals measurable or setting milestones, a team's movement and success toward achieving goals can be targeted. Not only does this show if the team is getting closer to their goal, but it can be used to identify problems in the team's path to success that need to be addressed. After setting SMART goals, conversations about potential member concerns and agreeability can be discussed to ensure that these goals are reasonable for each member.

One idea to keep in mind when setting goals is what owner of InsideOut HR Solutions, a human resource consulting firm that provides executive coaching for managers, Teresa Daniel, refers to as "stretch goals" (Daniel, 2015). These goals, although still achievable, attempt to increase the challenge necessary to motivate team members. Bilal emphasizes the importance of balancing reasonable challenges that members can work toward and unrealistic or demoralizing goals that are unachievable (Bilal, 2014). Goals that challenge members and maintain their interest in the task at hand can assist in keeping them focused and working toward their objectives. But if the goals become too challenging, the opposite can happen where members feel what is expected of them is so unfeasible that they become discouraged in their abilities. If the goal is too challenging, members may not attempt to put any effort into the team since what they are working toward is an impossible task. The second idea to keep in mind when setting goals and a purpose for a team, is to realize that they can change over time. COMSEP says that it is normal, and should sometimes even be expected, to have a change in focus. Members need to be able to identify when the change needs to occur. Effective teams understand that shifts in purpose or goals can occur and the appropriate communication channels to voice this discovery need to be in place (Bannister, Wickenheiser & Keegan, 2014). If goals are not being met, there may need to be a change in direction. Members should be aware of this and continually be checking in on the success of the team to see if their original purpose and goals are still relevant

and achievable. For example, technology is advancing and changing at such a fast pace, that many organizations may need to reevaluate their goals to keep up with changing trends.

Companies making house phones (i.e., landline phones) may need to alter their goal of selling 1,000 house phones per month to allocating more money to their R&D department to invent a new type of cellphone.

Although organizations and professional settings may have a more extensive purpose and goal setting process, group projects for college students still need to have these elements. The purpose of each project is usually provided to them by their Professor or in their project description. For example, a case study could have the purpose of identifying pitfalls in the management team of a large corporation and making suggestions that could improve their business. The goal could be to read five peer reviewed articles about the organization's management team found, identify the main challenges the organization faced, and write a ten-page case study on these issues using a case study framework. To further set their team's goals and purpose, students should talk about their expectations for the group project aside from those set by their Professor. This could range from achieving an A on the project to exerting minimal effort in order to pass the class. All members should agree on these goals so efforts are directed accordingly. The same process for dealing with disagreements of goals can be applied to the college setting by talking to the Professor to switch team members or by being aware that one member may need to put more effort into the project to make up for others' differing visions for the team. As stated earlier, having members not aligned with the common goals and purpose of the team may lead to lower success, but college group projects are limited by time and need to be dealt with appropriately.

### *Clearly Defining Roles and Responsibilities*

According to *The Entrepreneur*, “a successful team starts with a purpose and good structure before anything else” (Moran, 2013). Once the team’s purpose and goals are defined, roles and responsibilities must be assigned to members based on their skills and abilities. When selecting and recruiting members is possible, it is easier to pick certain people based on the goals of the team. Teresa Daniel suggests selecting and retaining the best talent based on the tasks required to reach the team’s goals, while quickly helping low-performing members find other places to work or tasks to handle. While selecting members based on roles needed to be filled, Daniel also emphasizes choosing members with complementary skills (Daniel, 2015). Instead of having a team where all members are experts in problem solving, it is better for the team to have some experts in problem solving, others in technical abilities, some members better at decision-making, and some with interpersonal skills. Having a well-rounded team allows them to achieve goals to the highest degree. It is not helpful for a team that is tasked with creating a new social media advertisement where all members are experts in reaching the audience and networking, while no members are creative or skilled with the actual construction of the ad. Bilal states the ideal team as “members displaying a range of skills, knowledge, and experiences and the right ‘mix’ of these for the task it is undertaking” (Bilal, 2014).

Of course, in college group projects where teams are either assigned at random or there exists a limited number of students in the class to “team up”, groups cannot always choose their members specifically. Instead of choosing members based on roles, teams may need to assign roles based on members. Bilal says this is possible by valuing members based on what they can contribute and encouraging them to develop (Bilal, 2014). Members can identify their strengths and the team can determine where they fit into the necessary roles, or members can choose roles

that might help them improve their skills. Not only can a detail-oriented person be tasked with recording the meeting minutes, but they may also want to take on the role of facilitating the meeting to enhance their leadership abilities. Depending on the nature of the team, the task at hand, and the environment the team is working in, members should be assigned roles based on their skills and desire to handle the responsibilities.

Once roles are assigned, all sources reviewed for this literature review stated the importance of members understanding what their responsibilities entail. One member could be assigned the leader, but what does the leader need to do specifically? Do they need to schedule meeting times, make the agenda, or communicate with other teams? Depending on the goals and purpose of the team, responsibilities will vary but it is extremely important for each member to fully understand their contributions. Daniel argues that members will be able to work better when their responsibilities are clear. Members must know how to do their job and why they are doing them. She says that tying each member's role to the ultimate purpose of the team enhances the team's potential since individuals will realize their value and purpose toward achieving their objectives (Daniel, 2015). It is easy for members to feel forgotten or blend in with the background during team projects, especially when the team is large. If each member fully recognizes their individual contribution toward the team's efforts, they will feel valued, needed, and will likely work harder to fulfill their responsibilities (Daniel, 2015). *The Entrepreneur* recognizes that roles and responsibilities may shift once the team is assembled or when goals change, which is a process that all members need to be aware of (Moran, 2013). If the purpose changes, roles may also need to be altered in order to achieve the new goals. After working on the project, members may not feel comfortable in their roles and may feel they can better fulfill other responsibilities. It is important to recognize that this is normal and can be done in a team,

without adversely affecting the desired outcome. Members should feel comfortable stating these concerns and others should be open to changing roles when appropriate. As long as all members are on board with the change in plans and everyone fully understands their new roles, the team can continue to run smoothly.

Not only do members need to understand their own contributions to the team, but they should also understand the roles of others. This helps the team identify gaps between the skills and roles present in the group (Bannister, Wickenheiser & Keegan, 2014). Additional members may need to be recruited, individuals may need to take on extra responsibilities, or new roles may need to be established to fill these gaps. This will also help teams recognize any tools or resources that may be needed to enable members to fulfill their roles (Bannister, Wickenheiser & Keegan, 2014). Duggan also suggests that each individual “produces regular status reports and communicates with each other to ensure work flows from one part of the team to another” (Duggan, 2016). McNamara also agrees with this strategy to regularly report and monitor the work of each member toward achieving their goals (McNamara, 2016). Roles and responsibilities should be aligned with others on the team and members will be able to hold each other accountable for their expected tasks. This will lead to the most effective team coordination, with everyone’s contributions headed toward the same purpose.

Refocusing back on undergraduate college group work, it is still important for members to identify their strengths and choose roles accordingly. Although these group projects may not have the flexibility to recruit additional members when there are gaps in skills or knowledge, some delegation of roles needs to be established. If one member prefers public speaking but lacks writing skills, they could be assigned a larger role in the presentation of the project and less responsibility in the write-up portion. It is important for teams to allocate the roles fairly, based

on each member's strengths. It is also important to communicate these roles among the group so everyone has a complete understanding of what is expected of them and the other members. This ensures that all tasks necessary to complete the project are assigned to members, each individual understands their contribution and value to the team, and they can hold each other accountable. Although on a smaller scale, the same process of delegation in a team of upper level managers in a large corporation can be applied to college group work to improve their coordination and execution of the desired outcome.

### *Identifying Suitable Leadership Positions*

When assigning roles and responsibilities, it is important to assign a leader when appropriate. The main objective of the leader position is to ensure that all systems and practices are being followed (McNamara, 2016). This is essentially the main person who keeps the team focused and on track toward achieving their goals. Daniel states that "high performing leaders generally accompany high-performance teams." She believes that essential leadership qualities can include building commitment and confidence in the team, keeping the purpose and goals relevant and meaningful, avoiding and removing obstacles that may hinder the team's performance, ensuring members are constantly enhancing their skills, and "getting in the trenches and doing the real work required" (Daniel, 2015). When necessary, leaders also assist in decision making and problem solving (McNamara, 2016). Leaders understand the purpose of the team and are committed to achieving results that will benefit each individual member as well as the team as a whole. The leader makes sure tasks are being completed and keeps the team's focus.

Bilal argues that leadership can be a shared function, depending on the nature of the team and their desired outcomes. Shared leadership "requires flexibility in recognizing and allowing

other team members to exercise real leadership when a member's skills are more appropriate to the team at that time" (Bilal, 2014). Depending on the tasks needed to be completed, the leadership responsibilities can be distributed among members and individuals can step up when they feel their skills are needed to better the team. One individual is not necessarily the only one who can keep the team focused. Shared leadership must be agreed upon by all members to avoid overstepping other member's assumed positions. If one member believes they are the sole leader of the team and others try to intervene or carry out their responsibilities, the leader may feel offended or unskilled at their job. Members must be willing to allow others to take the lead when necessary (Bannister, Wickenheiser & Keegan, 2014). Shared leadership is a strategy that all members must feel comfortable with and acknowledge to avoid discouraging or undermining others.

While not every team may need one leader, it can be beneficial to at least assign someone to be the main point of contact or coordinator. For undergraduate group projects, one person should be assigned to schedule the meetings, keep the members focused on the tasks they are required to complete, and initiate the work (starting a Google Doc for the team, setting a timeline or plan for deliverables, etc.). While this role may not be explicitly stated as the "leader", it is important for the team to have one person to complete these tasks. Only one member needs to find out each member's availability, reserve a room to meet, and initiate the actual work. This person may also be assigned the task of handing in the completed project to the Professor, bringing their laptop to class to display their PowerPoint presentation, or starting a group chat for all members to text message each other easily. These tasks may vary by project, but one person should be assigned to make sure everything that needs to be done, is completed. It would not be efficient if more than one member was completing each of these tasks. When appropriate, there



should be one member designated to take on this position to keep the team focused and make sure none of the tasks are forgotten.

### *Appropriate Communication Among Members*

So far, it is clear that members all must understand the purpose of the team, their goals, and everyone's assigned roles. But how do they voice their opinions or concerns effectively? This brings up the importance of a clear and consistent communication mechanism among team members (McNamara, 2016). Will members contact each other through email, over the phone, or through text message? Decisions may be made outside of group meetings and it is important for all members to be aware of these changes as soon as possible. Understanding the most effective, easiest, and quickest way to contact members of the group is an important decision to make during the first group meeting (Duggan, 2016). McNamara states that "consistent communication is the most important trait of a successful group" (McNamara, 2016). COMSEP has found that an important predictor of a team's success is correlated with their pattern of communication and their engagement with the group outside of team meetings (Bannister, Wickenheiser & Keegan, 2014). Members may want to not only specify the means of communication, but they also may want to set time constraints on when they are most likely going to answer or not reply to messages. Sundays may be dedicated to spending time with family so letting the team know this as soon as possible will ensure that members understand why they are not receiving responses on that day. If an individual is going on vacation and will not have access to a phone or Internet for an extended period of time, this is also something that the team needs to be aware of.

Aside from the actual communication channels, it is equally important to maintain constructive and respectful communication within team meetings. Working with other individuals introduces diversity and differing perspectives within the group. Members need to

feel comfortable voicing their views, especially if they differ from the majority. COMSEP describes the importance of having an open team that allows members to feel safe enough to speak up, raise additional or contrary opinions, and voice their areas of uncertainty or incomprehension, all with the certainty that their concerns will be listened to (Bannister, Wickenheiser & Keegan, 2014). Members must feel comfortable saying “I don’t know”. When there is open communication and individuals trust their members to consider their opinions, clarify misunderstandings, and support their opposing views, a team will achieve a high degree of engagement. An important characteristic of open communication is functioning with mutual respect at all times (Bannister, Wickenheiser & Keegan, 2014). Members from different backgrounds or cultures may have opposing views or differing perspectives. Every member’s opinions and ideas should be acknowledged, taken into consideration, and respectfully handled. There should be a focus on addressing issues openly and candidly (Daniel, 2015). If members feel uncomfortable voicing their views or feel as if they will be disrespected based on their opinions, they will not be open to communicating them and opportunities could be missed. Members should ensure that all members speak, listen, and connect with one another in order to support new ideas, clarify misunderstandings, and help each other reach their unified goals.

Not only does poor team communication restrict members from voicing their perspectives, but it also affects the team’s performance. COMSEP has found that poor communication can result in important issues not being resolved, inaccurate or incomplete information being exchanged, and members being excluded from conversations (Bannister, Wickenheiser & Keegan, 2014). Members may not be able to successfully complete their tasks if given incomplete information, or no information at all. If goals change or new tasks need to be incorporated, members who are unaware of this will not be working cohesively with the other

members. It is important for all members to be working toward the same purpose and goals to achieve maximum success and any changes in these objectives must be communicated to all members. Duggan suggests that clear, consistent, and respectful communication within a group can help prevent conflicts, disputes, and delays (Duggan, 2016). She recommends organizational charts and written communication as two ways to achieve open communication (Duggan, 2016). When assigning roles and responsibilities, a clear organizational chart can be determined to get questions answered quickly and misunderstandings acknowledged immediately. Organizational charts allow communication to be efficient and the team working smoothly. Daniel also agrees with this, stating that clear and open lines of communication “provides motivation, maintains interest, and promotes cooperation” (Daniel, 2015). Duggan also mentions documenting all decisions, procedures and changes. This written documentation can then be dispersed to members appropriately and referred to when problems arise (Duggan, 2016). If a member has a question about a decision that was recently made, they can first refer to the written documentation to see if their question can be answered there. If not, they can then contact the appropriate team member. This can help individuals receive answers to their questions more easily and serve as a common reference for all members to refer to when misunderstandings arise.

McNamara suggests that some successful groups can even over-communicate and still remain effective. This includes “members regularly receiving and understanding similar information about the group (it’s purpose, membership, status, and accomplishments). These communications might be delivered through regular newsletters, status reports, meetings, emails, or other collaboration tools. Each member is also contacted so they are always included in the conversation” (McNamara, 2016). This approach goes beyond simply answering questions when

they arise. Members are always informed periodically about changes and other information before questions are even asked. Regularly scheduled updates can be implemented. As long as this process and the effort being put into these updates is not adversely affecting the team's ability to achieve their goals, they can still remain successful. Once this process becomes tedious, time-consuming, or irrelevant to the point where no new information is being communicated, this time may be better spent working on other tasks needed to achieve the team's goals. Depending on the size, nature, and complexity of the team and its goals, appropriate levels of communication should be determined.

In undergraduate group projects, it is important for members to be open to opposing views, accept new ideas, and be able to effectively communicate with others. Part of the reason for incorporating group projects in college courses is to improve students' ability to deal with these situations. Members need to agree on communication channels and be able to work together to include everyone's opinions. With practice, students can become more open to others' perspectives, learn how to come to a common conclusion even when members have opposing views, and be able to work with many different types of people. Although there may not be explicit organizational charts formed within their groups or scheduled emails sent to all members each week, students will learn how to be more flexible and be able to support more open communication within their teams.

#### *Motivating Members in a Supportive Team Climate*

As teams continuously work toward their goals, it is important to recognize the progress they have made. COMSEP has found that celebrating achievements, even small ones, helps keep the team focused on the main purpose and encourages team identity, momentum, and high morale (Bannister, Wickenheiser & Keegan, 2014). Outlining small accomplishments toward the

end goal helps members stay on track and provides a plan for them to ultimately achieve their desired outcome. It helps them plan their next steps and what it is going to take specifically to reach their objectives. A goal of completing an entire marketing plan for a new product within one month can sound daunting and almost impossible. But when members break up the project into smaller steps (outlining the paper, identifying the target market, writing a product description, etc.) which will all be celebrated, it becomes easier to manage their time and make steady progress toward more achievable milestones. According to McNamara, celebrating progress is one of the best ways to avoid burnout. Without smaller accomplishments, it may “feel as if they are on a treadmill that has no end” (McNamara, 2016). These “celebrations” can be as small as spending 20 minutes on social media once a task is completed to going out for a team lunch, depending on the scope and size of the project.

Setting milestones with corresponding celebrations, both tangible and intangible, helps motivate and empower members. Daniel has found that “a belief in oneself and one’s abilities will encourage people to make more strategic risks to achieve team goals” (Daniel, 2015). These accomplishments serve as an incentive to complete tasks and perform quality work. Once a member’s contribution is recognized, their confidence in their abilities increase. Their work is being acknowledged by other members and their skills are validated. Teams who are empowered have increased ownership for their tasks, boosted interest in the project, and have opportunities to develop new skills (Daniel, 2015). They are reminded that they are valued in the team and their contributions are needed in producing a successful outcome.

In addition to celebrating smaller accomplishments, Bilal also emphasizes the importance of a supportive team climate in further motivating the team. Members are encouraged to contribute ideas and question procedures without fear of reprimand or disapproval (Bilal, 2014).

Members help each other reach their goals and enjoy celebrating each other's accomplishments. Individuals recognize that their partner's accomplishments are helping the team reach their end goal, so every contribution is equally important. Individuals on the team are not selfish and they want the other members to succeed. Member's behavior is in the best interest of the team and its performance as a whole (Bilal, 2014). Members support each other, are willing to help each other achieve their individual goals, and there is a sense of belonging and support within the team. Although this can be difficult to achieve, it is helpful for members to keep an open-mind and remember that each member's success is helpful for the success of the team.

In terms of undergraduate group projects, semester long assignments can seem impossible to achieve. Although some professors provide the milestones for groups by assigning deliverables due at various points in the semester, this is not always the case. Members should set goals for themselves, create a timeline for the team, and set dates for portions of the project to be completed in order to achieve the project due date. Not only will this help members manage their time, but everyone knows what needs to be accomplished to reach the final objective. Celebrating individual accomplishments or at least acknowledging the contributions made by members, can motivate the team, make members feel valued, and keep the team focused on their purpose. Writing these small accomplishments down and continually tracking their progress can assist in emphasizing their importance and keep the team's efforts coordinated.

### **Literature Review: Leading Effective Team Meetings**

Not only is it important to understand what makes teams coordinate effectively, but it is also necessary to know how to lead effective team meetings. Since undergraduate group projects almost always include some type of team meeting to plan and coordinate efforts, freeUP will have some functionality to make these meetings more effective. College students are extremely

busy with other classes, sports, work, and other extracurricular activities, that it is important to make each group meeting as effective as possible in order to complete the project on time. After conducting a second literature review on leading effective team meetings, there are five strategies that can be implemented to make the most out of each meeting. These strategies include organizing and planning the meeting details, assigning administrative roles, assigning action items, avoiding distractions, and evaluating for improvement.

### *Organize and Plan the Meeting Details*

The first step in leading an effective meeting is to have an objective. Peter Economy, leadership and management author for Inc.com and *Time* magazine, suggests considering why you want to plan a meeting in the first place before reserving meeting rooms or sending invitations (Economy, 2013). There should be a true, compelling need for the meeting to take place in order to justify diverting individuals' time away from their personal work, using their time, and going to the lengths necessary to plan the meeting. Economy says that "when mismanaged or poorly run, meetings can be counterproductive, distracting, and a waste of time and money" (Economy, 2013). If members do not believe a meeting is necessary and a clear objective is not set, the meeting could be a waste of time. Individuals may become frustrated that they were distracted from their other responsibilities for a meeting that seems pointless and it can become counterproductive. Even worse, members may start doing other work during the meeting and not participate in the conversation which would deem the meeting a wasted effort. Calvin Sun, author for *TechRepublic*, recommends beginning with the end in mind and asking yourself "what do I want to see as a result of this meeting?" (Sun, 2007). If there is no objective or purpose, why go to the lengths to schedule one at all? The objective could be as simple as "introducing a new member of the organization to the department" or as complex as "designing a

new website.” Sun believes that at the end of the meeting, the attendees should be better off than they were at the beginning (Sun, 2007). This may not serve to be true by the end of the actual meeting, but the intention should be aimed at leaving people better off than if the meeting was not held. Whether this is giving more information to members, making progress on a project, or decision-making, there should be some desired outcome planned. The first step is to ensure that the meeting is necessary.

After the objective is established and the meeting is deemed necessary, the next step is to plan and organize the meeting logistics. Leader of *Learning in Teams and Team Communications* workshops, Yvette Pigeon, and leader of *Productive Teams* workshops, Omar Khan, both teaching at the Association of American Medical Colleges, have found this to be an effective starting point when leading meetings. Included in the meeting logistics should be the location, date and time, any technology support, space set-up, and any other appropriate arrangements that should be made prior to the meeting (Pigeon & Khan, 2016). The meeting space should have enough chair and desk space, the necessary technology, appropriate lighting, and have comfortable space for all members. Confirming this before the meeting will avoid wasting time at the meeting to figure out these arrangements. Meeting time should be dedicated to completing group work and discussions, not finding more chairs or learning how to use the technology in the room. Lights, outlets, and other technology should be checked prior to the meeting in order to avoid wasting time to deal with technology issues. Members should also be given adequate notice of the meeting logistics so they are best able to attend (Pigeon & Khan, 2016). They should not only be aware of the time and place, but also any additional items that may concern them and their attendance. For example, if a PowerPoint presentation is expected to be given by a member of the meeting, they should be aware that they need to connect their laptop



to a screen in the room and bring the necessary cords or wiring to achieve this. If possible, they should test their equipment and make sure all the technology in the room works for their meeting requirements.

After the objective is determined and the logistics are planned, an agenda should be written. The meeting logistics can be included in the agenda but most importantly, the purpose or objective of the meeting should be clearly stated. CEO of Brian Tracey International which is a company specializing in the training and development of individuals and organizations, Brian Tracy, suggests writing a one-paragraph statement of the purpose for the meeting at the beginning of the agenda (Tracy, 2015). Specifically stating “we are having this meeting to achieve the specific goals of...” is an easy way to immediately introduce the objective. In addition to the purpose, a list of topics to be covered should also be outlined. Pigeon and Khan recommend going into further detail of each topic to include a brief description of each item, who will be addressing it, and an estimated time for the discussion (Pigeon & Khan, 2016). This will ensure that every member is aware of the meeting schedule and can keep the meeting focused and aimed toward the desired outcome. Economy believes that “clear agendas not only tell people what to expect, it outlines topics of discussion, sets the context and scope, lists key issues, and states desired objectives” (Economy, 2013). Providing an agenda will assist in giving structure to the meeting, keep members focused, and provide a reason for members to attend. Individuals’ time is valuable and making the most out of precious meeting time can lead to more effective and productive meetings.

After creating the agenda, it should be distributed to all members prior to the meeting. Tracy recommends distributing the agenda at least 24 hours in advance, if possible, so members are aware of what they are expected to contribute and can understand the nature of the meeting

(Tracy, 2015). This will also avoid time wasted on filling in latecomers since they will already be aware of what the meeting is about and the topics to be discussed. Members will be able to review the material and be prepared with comments or questions which will save meeting time and make sure as much information is covered during the meeting as needed (Sun, 2007). When members arrive to the meeting fully prepared, the meeting will be more focused, productive, and effective (Shandrow, 2016). The earlier the agenda is sent out, the more time attendees will have to offer feedback on the meeting plan and add or remove items if necessary (Pigeon & Khan, 2016). Not only should the agenda be sent out to all members before the meeting, but it should be followed as closely as possible. Having the most current agenda visible during the meeting will keep the discussion focused, remind individuals what topic is being covered, and reference the most current information (Economy, 2013).

Two more meeting logistics that help improve the effectiveness of meetings is to cover the important items first and keep the meeting as short as possible, without cutting into valuable discussion time. Calvin Sun uses Dr. Covey, author of *The 7 Habits of Highly Effective People*, and his demonstration to prove that addressing important items first can help improve the effectiveness meetings. His demonstration involves sand, medium-sized rocks, and large rocks. Dr. Covey challenges members in his audience to place all of the items into a pail with all the rocks remaining below the top of the pail and without sand overflowing. After many failures, he shows them the one way to fit all the items in. He first places the large rocks, then the small rocks, and then pours the sand over them. The majority of people who fail will put the items in the pail in the reverse order, mostly because that is how the items were presented to them (Sun, 2007). In meetings, it is important to address the most important or “largest” items first. That

way, they have a better chance of either being resolved or at least covered before the meeting is over. If time runs out, all that is left is the less important topics or the “sand”.

Lastly, it is important to keep the meeting as short as possible and adhere to the meeting times provided on the agenda. When meetings are shorter, people tend to focus more, work faster, and keep unrelated conversations to a minimum since there are time constraints on the discussion. In a study done in *The Entrepreneur*, the ideal length of a meeting is no longer than one hour (Shandrow, 2016). If the objective or purpose of the meeting is not going to be accomplished within one hour, then the meeting should be scheduled appropriately. The meeting should be as short as possible, given its purpose, and time should not be constrained so much that the objective cannot be successfully achieved. The meeting could be scheduled to be as short as possible but that will not have an effect on the productivity and effectiveness of the meeting unless the times are strictly enforced. *The Entrepreneur* suggests that one way to ensure that the team meets on time is to set very specific times and durations for meetings “as if they were departing trains such as 9:23 am to 9:44 am” (Shandrow, 2016). Being this specific can make the attendees curious and highly attentive to the times set for the meeting.

These same suggestions can be applied to college group projects to make team meetings more effective. Students should have an objective or goal for every meeting, they must determine the details of the meeting (location, time, etc.) and an agenda can help keep students on track. With busy college lives, it will also be beneficial for students to get as much work done in as little time as possible. Although the objective or agenda may not be as detailed or specific as professional business meetings, a plan does need to be in place for meetings to remain effective. To keep members focused and productive, members should all have the same understanding of what the meeting is for and know exactly how to accomplish the specified objectives.

### *Assign Administrative Roles*

Another strategy to help meetings run effectively is to assign administrative roles before the meeting. These roles could be talked about beforehand and then clarified in the meeting agenda. Potential administrative roles include a recorder to transcribe key decisions, action plans, and a summary of the meeting, and a timekeeper to give verbal reminders of the current time or the time left. Pigeon, Khan and *The Entrepreneur* all agree that a meeting leader or facilitator can assist in keeping the meeting on track. This individual should feel comfortable setting up the meeting and should be both trusted and respected by the team (Pigeon & Khan, 2016; Shandrow, 2016). Pigeon and Khan also describe this role as a collaborative style of leadership. This individual “focuses on asking instead of telling, listens attentively, and builds consensus among meeting participants” (Pigeon & Khan, 2016). The facilitator ensures that everyone is participating in the discussion and keeps the conversation focused in the direction of achieving the meeting’s goal. Clarifying administrative roles that will help the meeting flow smoothly will provide structure, allow the meeting to start and end on time, and ensure that the time spent together is productive (Pigeon & Khan, 2016).

In addition to administrative roles, the agenda should provide clear expectations for the attendees outside of their administrative positions (Sun, 2007). Not only should individuals understand whether they are performing the timekeeper or recorder activities, they should also know exactly what they are presenting or bringing to the meeting. Does the meeting require a short update from certain individuals on a specified topic, or do some members need to prepare a formal presentation? Being clear about expectations, both administrative and formal, leads to efficiency and avoids embarrassment involved with being put on the spot (Sun, 2007). When

everyone knows their contribution to the meeting, discussions should run smoothly and there should be increased productivity of the team.

Although roles and responsibilities may not need to be as formally assigned in undergraduate group work as they do in a professional setting, these tasks still need to be completed. There should be one person to keep the team focused and the discussion productive, one person to keep their eye on the time when others are immersed in their work, and one person to gather the notes and disperse them to other members after the meeting. If some members cannot attend a group meeting, one person should have the responsibility of filling them in on what they missed. These tasks still need to be completed, whether or not they are formally assigned. As long as there is a mutual understanding of who is completing each task, meeting effectiveness will be increased. It is best to have these roles determined before the meeting so time is not wasted during the allotted meeting time.

#### *Assign Action Items*

Not only do roles need to be defined to conduct the meeting, but action items should be clearly assigned based on the decisions made in the meeting. These responsibilities are focused on the after-meeting tasks. Although some tasks may be completed as a group during the meeting, there is usually additional tasks that individuals need to accomplish on their own in order to continue the project (Pigeon & Khan, 2016). Setting deadlines for these actions also enforces the accountability of each individual assigned to a task. Tracy states that “discussion and agreement without an assignment of responsibility and a deadline for the completion is merely a conversation” (Tracy, 2015). Meeting time should be dedicated to work that needs to be done as a group, while individual work should be completed outside of the meeting. To decrease confusion, avoid misunderstandings, and hold members accountable for their assigned tasks after

the meeting has taken place, documentation of the actions should be included in the meeting minutes. These can then be dispersed to all members as a reminder of their responsibilities.

The same is true for group work for undergraduates. Some tasks can be best completed on individual's own time, while group work should be the focus of team meetings. After meetings are complete, members can assign tasks for individuals that will help them in achieving their goals and due dates can be set. Students can have certain responsibilities and part of the project due by the next meeting and others can hold them accountable for their assigned tasks. Continuing work outside of team meetings and making sure that work is completed will help teams reach their goals.

### *Avoid Distractions*

One of the main pitfalls of team meetings is distractions and losing focus on the original goal of the meeting. Even if a strict agenda is in place, a facilitator is leading the meeting, and firm times are determined for the start and end of the meeting, the discussion could still be veered in the wrong direction. Members may start socializing with each other or issues unrelated to the goal of the meeting could waste the group's time together. If this happens, the team risks losing control of the agenda and the productivity of the meeting declines (Sun, 2007). When an issue is brought up that does not directly relate to the purpose of the meeting, Sun suggests "parking it." This involves using a whiteboard or other note paper to jot down these items to be later discussed. Once it is "parked", the issue is set aside and the meeting can be continued. This should be done for all topics that do not need to be resolved immediately or those that do not need to be discussed in order to continue the meeting (Sun, 2007). To ensure that this approach remains effective, the items should be documented and truly discussed at a later date.

If an item is brought up that is unrelated to the objective but does need to be addressed immediately in order to continue the project, a decision should be made. The agenda should be followed as closely as possible, but it is important to realize that there may be some topics that need to be discussed in order to remain productive. The key to dealing with these issues, is taking the appropriate amount of time addressing them and attempting to make decisions as quickly as possible (Sun, 2007). If the necessary people needed to resolve the issue or make the decision are in the meeting, taking the time to address it can be beneficial. If additional members are needed that are not at the meeting, it is best to defer the issue and attempt to proceed with other agenda items that can be resolved. It is important to stick to the agenda as closely as possible and be able to determine whether discussions become personal and unconstructive (Economy, 2013). Additional topics that are brought up in discussion, not outlined in the agenda, need to be categorized as items to be addressed now or for off-line discussion after the meeting.

Students completing group work can also benefit from avoiding distractions. With the immense amount of social media websites, other courses to do work for, and weekend plans to be discussed, it can be easy for students to get off track. Adhering to the planned agenda, only discussing additional items that are needed to continue the meeting, and “parking” extra topics, will all help improve the effectiveness of the team meeting. Keeping everyone focused and working toward the same goal will be a successful way to be as productive as possible during valuable meeting time. Attempting to keep the conversation aligned with the agenda and delegating someone to refocus the discussion when it is deterred in an unproductive manner will help increase meeting effectiveness.

### *Evaluate for Improvement*

The last strategy for maintaining meeting effectiveness is to save the last ten minutes of the meeting to summarize and wrap-up the meeting (Shandrow, 2016). This includes confirming, clarifying, and recapping what was discussed and agreed upon (Economy, 2013). Each item on the meeting agenda should be summarized and given closure, there should be an agreement on each one, and members should restate what has been concluded for all items (Tracy, 2015). All members should understand their own action items, how they are expected to complete them, and when their deadlines are. This will ensure that all members understand the situation, goals, and decisions made to be able to continue their work outside of the meeting. Also included in this quick, wrap-up discussion should be the evaluation of whether members feel the meeting has fulfilled its initial objectives (Economy, 2013). It is important to avoid the urge to bring up additional topics during this recap time and restrain from continuing addressing new issues that may arise. The wrap-up should officially close the meeting (Economy, 2013).

Pigeon and Khan suggest that this time is well spent “wrapping up the meeting with an assessment of process and progress, and then using the information shared to plan to improve the next meeting” (Pigeon & Khan, 2016). Two ways this debriefing time can be utilized is by task-level monitoring or team-level evaluation, depending on the scope and objective of the meeting. Task-level monitoring compares the team’s progress against the initial goals of the meeting and sets task goals for the next session. Questions to be asked include: what has the team accomplished during the meeting, has it met its specified goals, what challenges were presented that members will need to overcome to complete the project, and are the assigned tasks and action plans achievable? Task-level monitoring can lead to “immediate and significant improvements in how the tasks are run” (Pigeon & Khan, 2016). This strategy keeps the goals in



focus, provides accountability for members on their assigned action items, and helps identify what needs to be done in future meetings to ensure progress on the project.

The second strategy that can be implemented in the wrap-up of the meeting is team-level evaluation. This approach is “more involved, but it can surface issues felt by individuals, open up productive lines of discussion, and lead to improvements in team processes.” Questions to be answered using this approach are: what went well today and what needs improvement? (Pigeon & Khan, 2016). When answering these questions, it is important to consider the decision-making process used during the meeting, the communication, accountability of members, guidance, and facilitation practices. This will help the team assess their ability to work together, be able to set goals and improvements for the next meeting, and help set additional roles that may be needed to improve their meeting effectiveness. Both strategies can be used together during the wrap-up section of the meeting or one can be implemented, depending on the project and how meetings are run. They are both mechanisms to evaluate and plan for improvement of future meetings, teamwork, and be more productive and effective as a group.

The last strategy to improve the effectiveness of team meetings is to distribute meeting minutes to all members after the meeting has ended. Either the leader or the member designated as the notetaker should keep accurate minutes during the meeting and circulate the notes within 24 hours to all members (Tracy, 2015). Minutes should “record the decisions of the meeting and the actions for follow-up” (Pigeon & Khan, 2016). This ensures that even if people were not listening during the meeting, not adequately participating, or did not seem to fully understand the wrap-up portion, they have notes to refer to that summarize everything that was stated. The minutes should list the specific member assigned to each action item so they are aware of what is expected of them (Sun, 2007). The meeting minutes can serve as a way to measure and monitor

whether members are completing the tasks they were assigned and to hold each other accountable for their responsibilities (Pigeon & Khan, 2016). These notes can also be referred to weeks or months later to remind individuals what decisions were made, where responsibilities were delegated, and what was discussed (Tracy, 2015). If notes are not taken and distributed to members, questions may arise as to who said what, who committed to each action item, and follow-up actions may happen more slowly or not at all (Sun, 2007). After distributing meeting minutes, feedback can again be solicited from individuals and the effectiveness of the meeting can continue beyond the meeting time. The conversation can continue, members can contribute more to the goals of the team, and tasks can continue to be completed.

Undergraduate students participating in group work can also benefit and increase their meeting effectiveness by improving their time spent together. Allocating time to recap what was discussed and distributing meeting minutes to all members can help individuals remember their responsibilities and focus in the group. With the possibility of having many group projects occurring at one time, it may be difficult for students to remember exactly what is expected of them for each project. With multiple courses, various group projects occurring at once, and extracurricular activities, remembering details about one project or recalling every decision made in all meetings may be an impossible task. Instead of wasting time at the next meeting trying to remember what was previously stated, it is easier to document the discussion during the meeting and present it to all members in a way that will be understood by everyone. With undergraduate students' busy lives, it is important to document the meeting and share the notes with everyone so they can continue making progress on the project, even after the meeting has ended.

## Survey and Interview Gathered Data

### *Research Procedure*

In addition to the literature review analysis, individual research was conducted in the form of surveys and interviews. The web-based survey, estimated to take participants ten minutes to complete, consisted of 14 questions: one consent letter, six questions surrounding participant's experience and contribution to group work, four questions concerning their mobile application preferences, and three questions targeting the participant's demographics (see Appendix A for administered survey questions). The survey was distributed through social media platforms, email, Canvas, and word-of-mouth. This part of the research was targeted to all students attending or graduated from the University of New Hampshire. After analyzing the data, 123 responses were received. Of the responses, 67.48% were female and 32.52% were male while 42.28% were seniors, 10.57% were juniors, 6.5% were sophomores, 37.40% were freshman, 2.44% were graduate students, and 0.81% were not in school. An overwhelming number of responses were from Paul College students (74.80%) with the remaining responses from other colleges at the University of New Hampshire (6.5% from the College of Engineering and Physical Sciences, 5.69% from the College of Life Sciences and Agriculture, 5.69% from the College of Health and Human Services, 4.07% from College of Liberal Arts, 1.63% from the Thompson School, 0.81% from the Carsey School, and 0.81% categorized as "other" which considers those undeclared). After closing the survey, the data was collected and analyzed to identify patterns, percentages, and create visuals.

In addition to the web-based survey, there were eight one-on-one interviews conducted with individuals from various concentrations and graduation years in Paul College. Interviews ranged from 20 to 45 minutes and consisted of 10 questions: one consent form, five questions

targeting their experience and opinions on group work, and four questions concerning their preferences and utilization of cellphone applications (see Appendix B for administered interview questions with additional follow-up questions). Four females and four males participated in this portion of the research, with one male and one female interviewed from each graduation year (from freshman to senior standing). In an attempt to include all concentrations, members concentrating in marketing, information systems/business analytics, finance, or accounting were recruited for interviewing. Unfortunately, students concentrating in entrepreneurial studies, international business and economics, and management were not included in this process. This portion of the individual research allowed for more in-depth responses to specific interview questions and helped gain more insight on students' experience with group projects, their opinions on teamwork, and preferences and usability of mobile applications. To keep the identity and responses of individuals anonymous, they will be given a number based on their class standing and gender, and will be referred to as "Respondent #." For example, the female freshman interviewee will be Respondent 1 while the senior male interviewee will be Respondent 8. The interviews were audio-recorded, transcribed, and analyzed for common themes and key quotes. This information, supplemented with the literature review findings and survey results, will be used to interpret and determine if there is a market need for freeUP and assist in the designing and functionality of the application.

### *Research Findings*

After analyzing and synthesizing the data from the survey and interviews, it is clear that group work is a prominent aspect of the University of New Hampshire curriculum. 69.11% of survey respondents stated that they have 3 or more group projects per semester. Interview respondent 7 and 8, both seniors in Paul College, stated that they have been involved in 20+

group projects in their college careers. Although group projects are ubiquitous in the curriculum, the consensus among students is unfavorable toward these types of assignments. Five out of the eight respondents in the interviews stated that they prefer individual work over group work. Based on the survey, 46.34% of respondents either somewhat or extremely disagreed with the statement “I like group projects.” Some reasons given for this were scheduling (32.52%) and delegating the work load (30.08%), which were identified as the two most stressful parts of group projects. The same reasons were uncovered in the interviews when respondents were asked how they felt about group projects. Responses included “delegating the work is always an issue and I hate having uneven workloads” and “nobody can ever meet because people are way too busy.” With the amount of group projects that students are required to complete and the consensus that most students do not enjoy them, their motivation and openness can be decreased. Students may not be as enthusiastic to participate in group work which can harm the productivity of the team.

One of the largest concerns about group work that was concluded in both the survey and interviews was the issue of scheduling. When asked what the single most stressful part about group projects is, 32.52% of participants said scheduling, with delegating the workload coming in a close second with 30.08% responses as stated above. Scheduling and delegation are both tasks of a leader which is also what a majority of respondents identified themselves as. An overwhelming 75.61% of participants of the survey either somewhat or extremely agreed with the statement “I feel that I do most of the planning in my group projects.” All of the respondents of the interview stated that they usually assume the leader role during group projects and feel that they are leading the group rather than leaning on the group. Some of the reasons respondents gave for viewing themselves as the leader included the usual tasks they complete during the

project. These tasks include “contacting other people and finding meeting times”, “getting everyone organized and making sure everyone is on top of things,” and “making the schedule.”

To get a better idea of how students generally go about scheduling group meetings in order to integrate the appropriate scheduling functions in freeUP, specific scheduling procedures were questioned in the one-on-one interviews. Seven out of the eight respondents said they would first initiate a group conversation via text message for their team to find their availability. Out of those seven respondents, two of them would email their members right away if they did not have their cellphone numbers. Respondent 6 was the only one to mention using When2Meet.com to schedule group meetings. This website allows members to be added to a group and visually block out times that they are available to meet. They can do this on a monthly calendar and select their available days, or they can use the weekly view and select their available hours in a given week. As members block out their available times, other members can see where their availability aligns with others in their group. Once all members have selected their availabilities, you can visually see where the times overlap.

After finding a time for all members to meet, six out of the eight respondents of the interview said they would reserve a breakout room in Paul College. Respondent 1 prefers to meet in the library and Respondent 6 said it depends on the class. If the meeting was for a Paul College course, then Respondent 6 would reserve a breakout room in Paul College. If it was not a Paul College course, then they prefer to go to the library. After finalizing the meeting time and location, the last question to be answered was how they would remember the meeting details (date, time, location, etc.). Five respondents said they would type it in the calendar on their mobile device or use the Reminders app, two respondents said they would “just remember” and Respondent 3 was the only one to mention putting it in a paper planner. Two of the respondents

did mention that they have paper planners but they do not use them because they are too busy and do not have time to write in it. Students are becoming more reliant on technology, specifically their cellphones, to streamline their responsibilities. Some students feel too busy to take out a planner and manually write in tasks, but are more comfortable and apt to put the information in their cellphone. This shows the importance of technology and the need for all group work activities to be easily accessed in one place.

The last set of questions in the survey and interview consisted of participants' openness to using a groupwork related app and what functions they would like to see. When asked if they believed their team would work more cohesively together if there was a tool available to help improve the scheduling process, 55.28% answered yes and 36.59% answered maybe. When asked if they believed this would also help their team produce better results (ex. receive a higher grade), 43.90% answered yes and 44.72% answered maybe. An overwhelming 68.29% also said this tool would help teams better meet deadlines (with 23.58% answering with maybe). Although 45.53% of survey participants stated they would not be willing to pay \$0.99 for a group scheduling app, 84.55% said they would download it if it were free. Interviewees had similar responses with seven out of eight respondents saying they would use or try a scheduling app for group work if there was one. The one respondent said they do not have time to even open their paper planner so having another app would not be helpful to them. When asked if they would pay for such as app, three respondents said no and one respondent said only if all their other team members were using it. The remaining four respondents said it depends on the app itself, its quality, and usability. For these individuals, \$1.29 was the most they would be willing to pay. If the app was free, seven respondents said they would not mind seeing advertisements in the app while one respondent said they would rather pay than see ads. Of the individuals who would not

mind advertisements, they specified that they would not want videos or pop-ups and instead would prefer the ones on the bottom of the screen or the sidebar where they can be easily ignored. A majority of students would be willing to try an app that attempted to improve the ease and synergy of group work, had the potential to simplify the scheduling process, and believe that it would enhance their final product. For visuals of all the survey responses and collected data, refer to Appendix C: Data Visualization for Survey Results.

To make sure all the appropriate and reasonable functions are integrated into freeUP, questions on specific features individuals would like to see in the app were discussed. When asked what features and functionality participants would like to see in this type of app, the top three answers were task list/to-do list, group contact information, and the ability to book a room. Interviewees had similar responses with seven out of the eight respondents stating that they would like to see the ability to reserve a breakout room. Three out of the eight respondents said the ability to add your own schedule and to see other member's availability would be beneficial, and four more would like a reminder function that notified them about upcoming meetings. Within this reminder feature, they would like to view the time, place, title, and who is attending each meeting every time they are notified. It was also mentioned that having the ability to preview what you have for each day and having a calendar view within the app would help students plan their time and manage other group work they may have in other courses. Similarly to the survey results of having access to group contact information, interview respondents expanded on this and stated they want a group messaging function within the app with a video chat option in case a member could not physically make the meeting. Additional functionality suggested by interview respondents included the ability to upload and share documents, syncing



capabilities between computer and mobile devices, task lists and agendas, a social aspect where you add people and form groups, the ability to designate a leader, and color coding options.

Based on all the responses, it is clear that students want to improve the ease and efficiency of planning, communicating, and scheduling group projects. With all the functionality that was suggested, students would prefer to have one place to carry out all the tasks needed to complete teamwork and a communication platform that all members can easily locate. Students value technology and efficiency which is the purpose of freeUP.

### **Functionality of Application Based on Literature Reviews and Gathered Data**

The appropriate, reasonable, and possible functionality of freeUP is based on the literature reviews conducted and both the survey and interview results. This app, which will be downloadable for iPhone and Android users, attempts to improve the productivity of group work, makes them more manageable, and is designed to be user friendly. The functionality and features of freeUP can be split into three main categories: meeting details, productivity, and its social aspect. See Appendix D for a visual prototype of freeUP.

#### *Meeting Details*

freeUP was initially invented to ease the stress of scheduling group meetings. This objective was validated after surveying and interviewing current students and concluding that organizing and planning meeting details was the first step in leading effective team meetings. freeUP will be connected to BlackBoard or Canvas to retrieve students' course schedule information. The app will compare group members course schedules and determine dates and times that all individuals are free to meet. Members will also have the ability to add additional schedules (work, sports, clubs, etc.) to accurately show their true availability outside of

academics. After a meeting time has been selected, the option to book a breakout room in Paul College will be available to them since a majority of students were found to meet their groups in breakout rooms. The date, time and location of the meeting will be visible to all members so they are aware of the meeting logistics.

To further ensure that all members are aware of the meeting details, SMS notifications about upcoming meetings and their details will be distributed to all members. Individuals can choose how often they are notified but the default setting will be the day prior to the meeting and one hour before the actual meeting. Members will have the ability to change this setting to be as frequent as every hour leading up the meeting or be able to turn off the feature completely. A majority of interview respondents already use a mobile calendar or reminder function so this feature would be favorable.

As more research was conducted on other issues and stresses surrounding group work, additional functionality was integrated. To help streamline responsibilities and ensure that multiple members are not completing the same tasks, a pre-made list of roles to assign members will be available in the app. These roles will include a leader (to choose the final meeting time, book the breakout room, make sure individual parts of the project are cohesive, etc.), editor (to proof-read the final paper or project), and designer (to create the design and layout of the group's PowerPoint presentation). In addition to the pre-filled roles, a place to add additional roles, depending on the project, can be assigned. Based on both literature reviews, identifying suitable leadership positions and assigning administrative roles can improve team coordination and the effectiveness of team meetings. Although not required to continue using the app, assigning these roles is recommended to ensure that members are not attempting to carry out the same tasks.

## *Productivity*

Since many students have busy lives, it is extremely important to make the most of every group meeting when all members are finally available. freeUP has a set of features to help improve the productivity of each group meeting. The first feature is a task list that also acts as an agenda for each meeting. Creating an agenda was determined to be one of the most important aspects of leading an effective team meeting. The agenda can include the meeting logistics, the purpose or objective of the meeting, and a schedule of topics to be discussed. Since group meetings for undergraduates may not be as lengthy or comprehensive as those in a professional setting, freeUP's simplified version of an agenda was created and set up as a task list. According to the survey responses, delegating the workload was ranked as the second largest stressor of group work which further reinforces the need for this type of feature. The feature allows members to add tasks that need to be completed for the project, assign each item to members of the team, and give due dates for each one. As members complete their designated tasks, they can check off the item on the task list for everyone to see their progress. This helps the team delegate tasks and keep members accountable which was found to be two aspects of group work that help improve team coordination and team meetings from both literature reviews. The task list function aims to clearly define member responsibilities and assign specific action items to each member.

To integrate the agenda concept into the task list, members will have the ability to group tasks into categories based on the topic of each meeting. For example, one category could be titled "PowerPoint Integration" which would be the objective of the next group meeting. Within that category, tasks such as "Cindy creating 3 slides for the product concept," "Jack creating 4 slides for the product design," and "John creating 3 slides for the marketing of the project" could all be grouped together with the next meeting date as the deadline for each task. Within each

category, items can be moved up and down based on their importance which is another aspect of an agenda that was concluded to be an effective strategy to improve team meetings. Continuing on the example above, another task within the “PowerPoint Integration” category could be “practicing the presentation.” This item could be dragged to the bottom of the list to signal that only if the items above are completed and there is still time left in the meeting, then this task can be started. If time does not allow this task to be started, it will not be checked off as “completed” and can be moved to the next meeting category. This helps keep the purpose of the meeting clear and aims to keep members focused on the tasks they need to complete for each meeting.

Two additional features that are associated with the task list function are a progress bar and a project timeline. The progress bar is shown at the top of the screen for every team that an individual is a part of and fills up as each task is completed. This serves as a visual representation that the team is making progress and continually reaching their project goals. This function was created based on the importance of motivation and achievement that was concluded in the effective team coordination literature review in the motivating members in a supportive team climate aspect of team projects. In addition to the progress bar, members will also have the ability to import project timelines from professor’s syllabi or manually add it. This will include deliverables they must complete and due dates for each part of the project. Based on this timeline, students will be able to create appropriate tasks for members and deadlines for each item in order to make the project due dates. This stems from the research found on building effective team coordination and the importance of sharing a purpose and having unified goals. Keeping the project timeline and the goals of the project in mind, members will have an understanding of what they are working toward and be able to progress toward the same objectives.

The last feature that relates directly to the productivity of the team is a notes section. This function originates from Sun's approach of "parking" topics that are brought up during meetings that can be discussed at a later date, without disrupting the meeting agenda. The notes section is for issues or ideas not concerning the immediate goal, but still relevant to the project. They can be written here to remind the group to discuss it later without deterring away from the meeting's original purpose. This helps teams avoid being distracted which was a main characteristic of leading effective team meetings. The note section does not need to be used solely for this purpose. It can also be used for brainstorming, documenting key takeaways, or recording decisions made, while keeping all ideas located in one place where all members can easily access it anytime on their mobile device.

### *Social Aspect*

The final set of features for freeUP surrounds a social aspect that students in today's society desire. With all the social media outlets that students are consumed by, a social aspect to this app would increase their willingness to try it and feel connected to it. Individuals will be able to add friends and form groups among them based on the members they are assigned in the classroom. Members can be friends on the app without having group projects together. When groups are formed among members, they can also name the group based on the class, project they are assigned, or any other criteria they want to keep their groups separated. The last aspect to make this app more social is its chat feature. This allows members to talk to each other in their groups easily and at once. Seven out of the eight interview respondents mentioned they currently initiate group chats for their projects. Having appropriate communication among members was concluded to improve effective team coordination in the conducted literature reviews and this function serves as an easy way to communicate to members within the group. freeUP aims to

streamline group project tasks and having this capability within the app will keep all discussions in one place.

## **Conclusion**

The goal of freeUP is to assist students in increasing their productivity, help minimize common stressors surrounding group work, and alleviate some of the tasks that need to be performed in order for members to focus their efforts on producing a successful project. As collaboration becomes more prominent in the business world, it is important to expose students to the challenges they will face in their careers while they work in complex environments with diverse individuals. Although this aspect of the curriculum is important for students to experience so they can build the skills needed to be a strong team member, the consensus among students at the University of New Hampshire is overwhelmingly negative to these types of class assignments. freeUP aims to close this gap. By identifying what makes teams coordinate effectively, how to best run meetings, and by getting input from current students, the appropriate functions and uses were integrated into the application to tailor to specific needs. After researching these topics, identifying the most useful functions, and designing the app, the next step is to develop freeUP and start the testing phase. When the actual product is tested and perfected, the goal is to market it to universities. freeUP is designed to improve the productivity of undergraduate group projects and to change students' opinion on such a widely used tactic so they are more open, motivated, and excited to participate in teamwork when they venture out into today's business world. The goal to change the reputation and effectiveness of group work begins with freeUP.

## Appendix

### Appendix A: Administered Survey Questions

1. What do you think is the single most stressful part about group projects?
  - a. Communicating with Members
  - b. Scheduling
  - c. Delegating the Workload
  - d. Meeting Deadlines
  - e. Conflict with Group Members
  - f. Other (please specify) \_\_\_\_\_
  - g. None of the Above
  
2. On average how many group projects or labs do you have per semester?
  - a. 0
  - b. 1
  - c. 2
  - d. 3
  - e. 4+
  
3. What situation do you best identify with?
  - a. I do all the planning for group meetings (ex. finding a room, set up group messages, etc.)
  - b. I usually let others take the lead for planning the meetings
  - c. I sometimes facilitate the planning of meetings while other times I sit back, depending on my group members
  - d. I've never planned a meeting for any group I've been involved with
  
4. If there was a tool available to help improve the scheduling process, do you believe your team would work more cohesively together?
  - a. Yes
  - b. Maybe
  - c. No
  - d. I Don't Know
  
5. If there was a tool available to help improve the scheduling process, do you believe your team would produce better results? (ex. receive a higher grade)
  - a. Yes
  - b. Maybe
  - c. No
  - d. I Don't Know
  
6. Do you think a scheduling tool would help your team better meet deadlines?
  - a. Yes
  - b. Maybe
  - c. No
  - d. I Don't Know

7. Please select any features/functionality that you would like to see on a Group Meeting Scheduling App:
- a. Task List/To-Do List
  - b. Ability to Book a Room
  - c. Ability to E-mail Group Members
  - d. Automatic Reminders
  - e. iPhone/Android Calendar Integration
  - f. Places for Additional Time Commitments (Club Spots, Work, etc)
  - g. Group Contact Information
  - h. Other \_\_\_\_\_
8. Would you be willing to pay \$.99 for a Group Scheduling app?
- a. Yes
  - b. Maybe
  - c. No
  - d. I Don't Know
9. Would you download a free Group Scheduling app?
- a. Yes
  - b. Maybe
  - c. No
  - d. I Don't Know

10. Please indicate to the extent that you agree with the following questions:

	Extremely Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Extremely Agree
I feel that I do most of the planning in my group projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like group projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that group projects are a fair way to be evaluated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would download a free app to help me with scheduling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would pay for an app to help me with group scheduling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



11. Which group best describes you?

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior
- e. Graduate Student
- f. Not in School

12. If you attend UNH, which college are you in?

- a. PAUL
- b. COLSA
- c. CEPS
- d. COLA
- e. Carsey School
- f. HHS
- g. Graduate School
- h. Thompson School
- i. Other

13. What is your gender?

- a. Male
- b. Female
- c. Not Listed \_\_\_\_\_
- d. Prefer Not to Answer

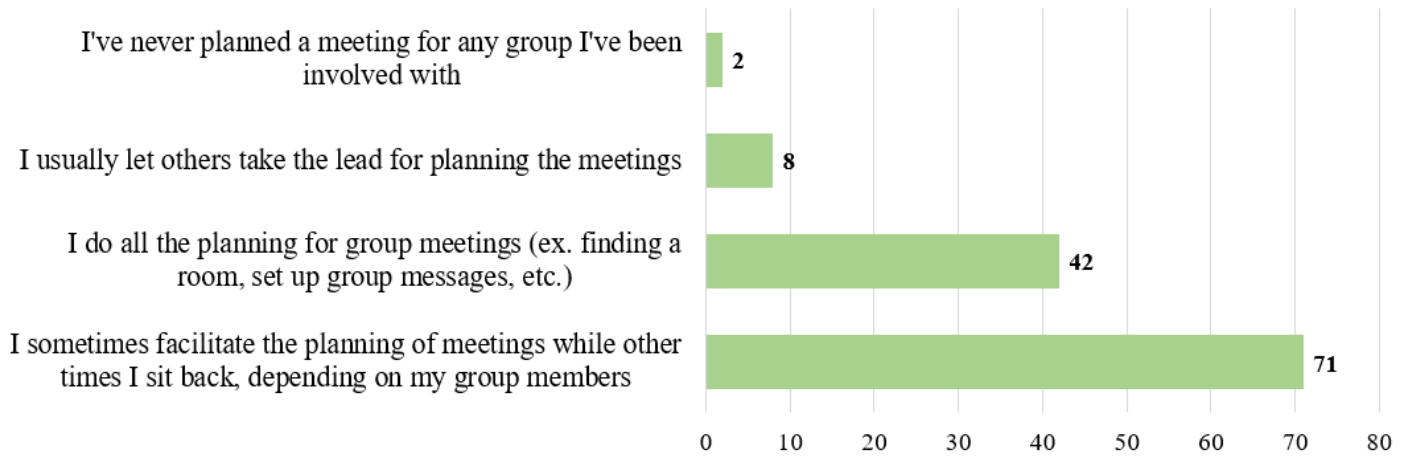
*Appendix B: Administered Interview Questions with Additional Follow-Up Questions*

1. How do you feel about group projects?
2. Approximately how many group projects have you been involved with?
3. Describe your usual role in group projects. Does this role vary by group?
  - a. Do you feel you are usually leaning on the group or leading the group? How and why?
4. Describe to me how you would go about scheduling a group meeting.
  - a. Would you reserve a room?
  - b. Would you put this in a planner/calendar?
  - c. Would you remind the group the day of the meeting? How?
5. Do you feel that group projects add value to your overall education?
  - a. Do you prefer individual or group work?
  - b. Do your group grades end up being higher/lower/about the same as your individual work?
6. Describe to me your favorite app.
  - a. Why is it your favorite? (features, usability, interface, etc.)
7. Would you use a scheduling app?
  - a. Would you pay for an app?
  - b. Would you mind advertisements on the side if it were free?
8. What features would you like to see in such an app? (ex: booking a room, group reminders, task list, etc).
9. If you did not have to put effort into scheduling group meetings, do you feel that the outcome of the group project would be better? (higher grade, more effective communication, etc).

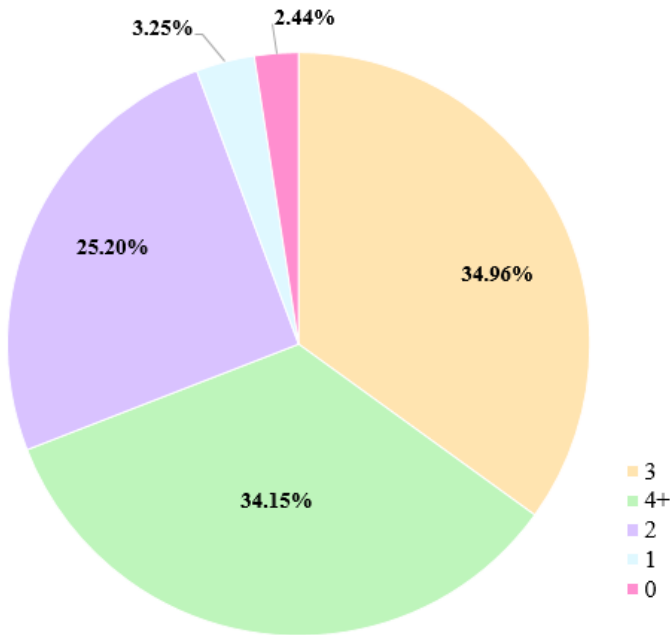
Thank you for your time!

*Appendix C: Data Visualization for Survey Results*  
**Experience and Contribution to Group Work:**

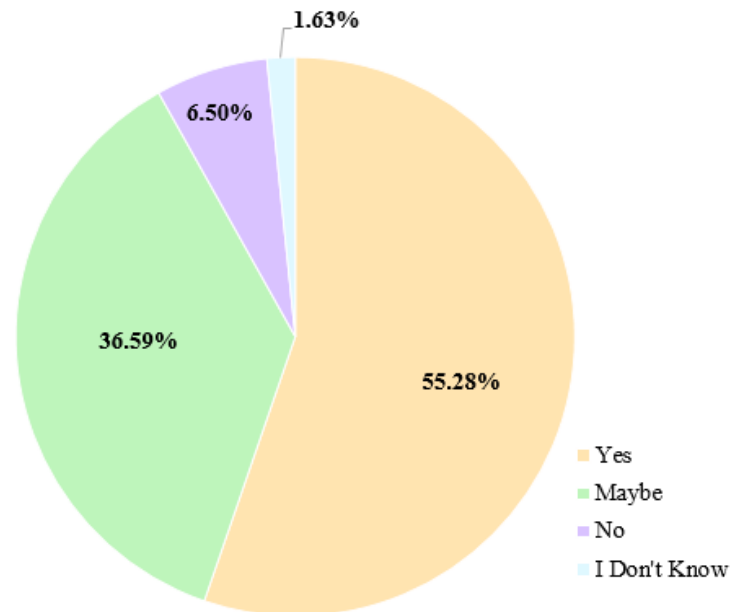
**Group Leadership Behavior**



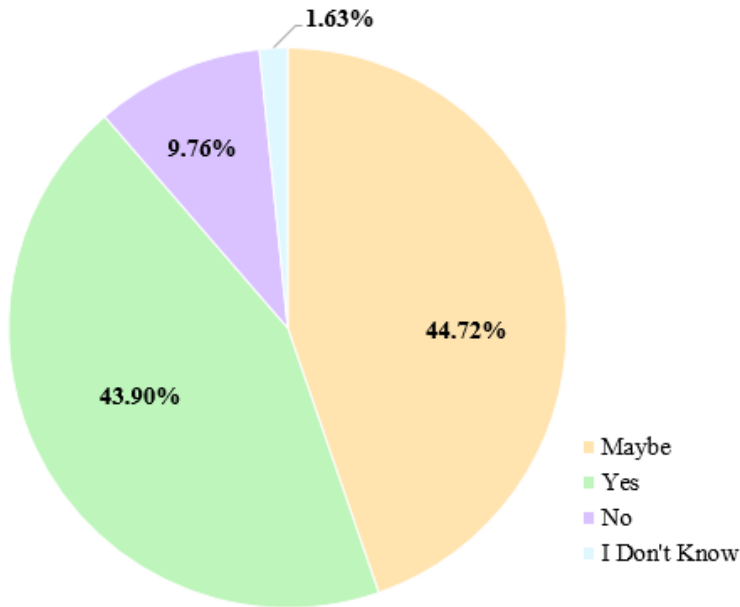
**Group Projects/Labs Per Semester**



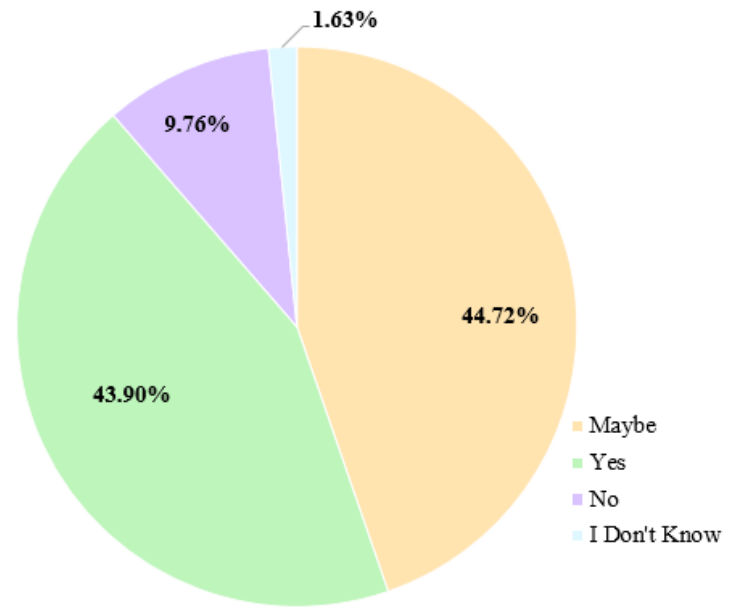
**Do You Believe freeUP Would Improve the Cohesiveness of Your Team?**



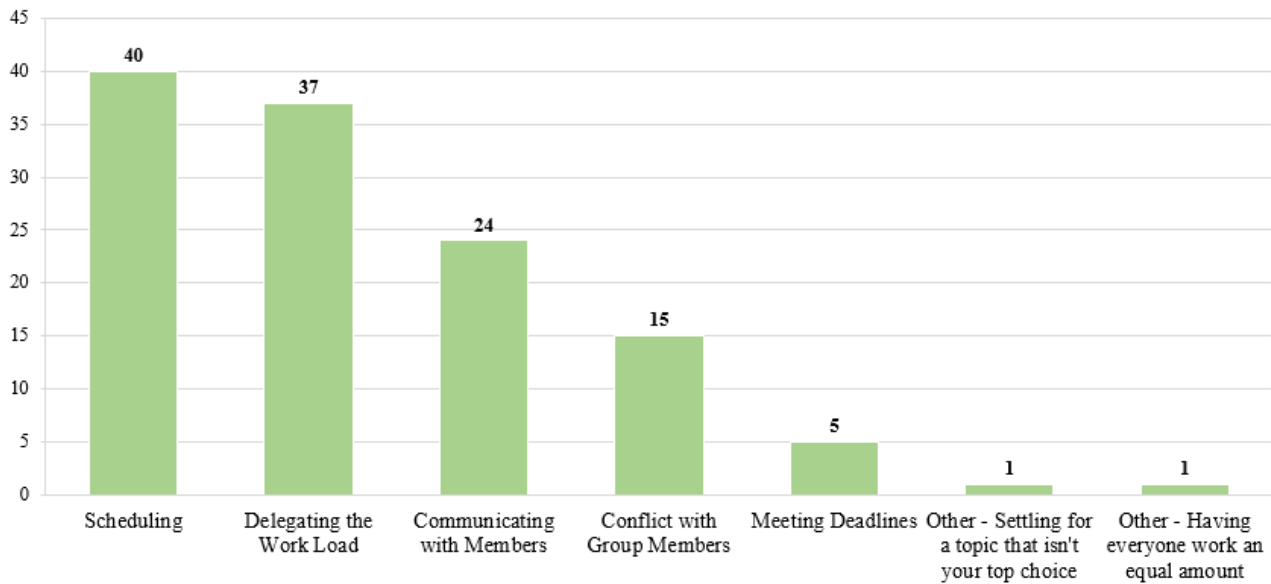
**Do You Believe freeUP Would Help Your Team Better Meet Deadlines?**



**Do You Believe freeUP Would Help Your Team Produce Better Results?**

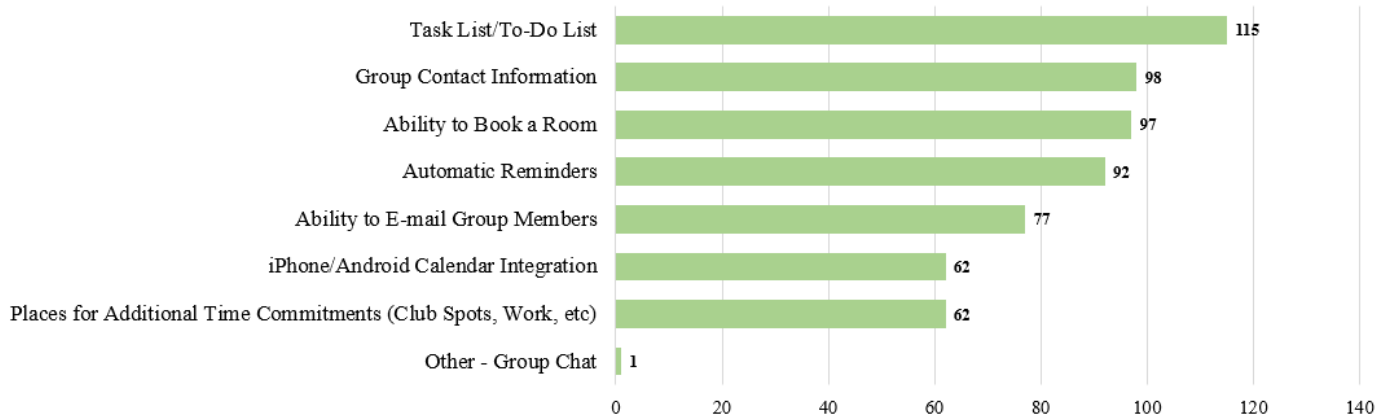


**Most Stressful Part of Group Projects**

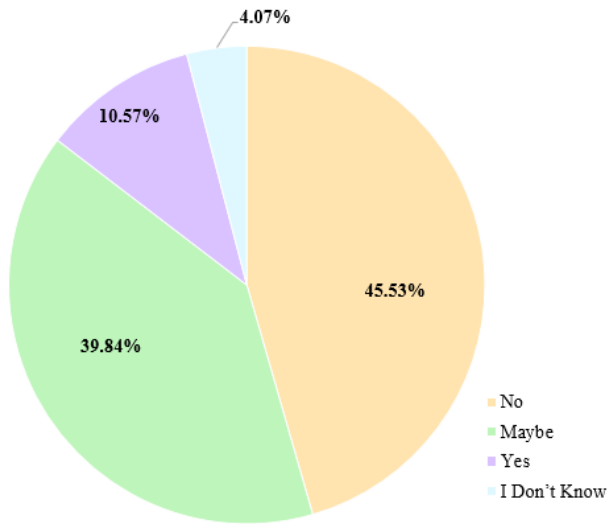


## Mobile Application Preferences:

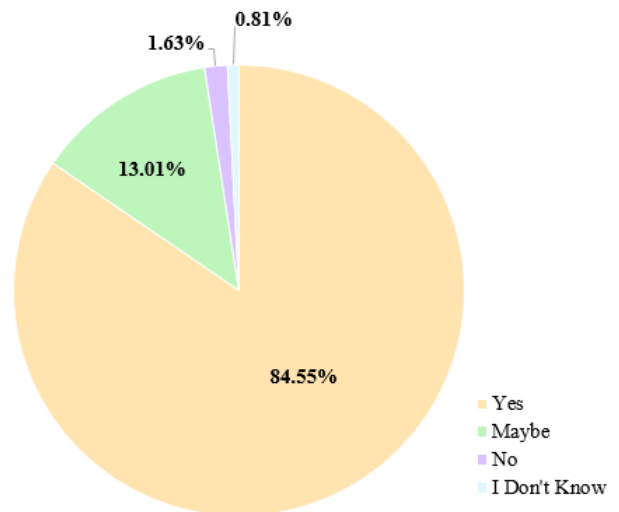
### Features/Functionality that You Would Like to See in a Group Meeting App



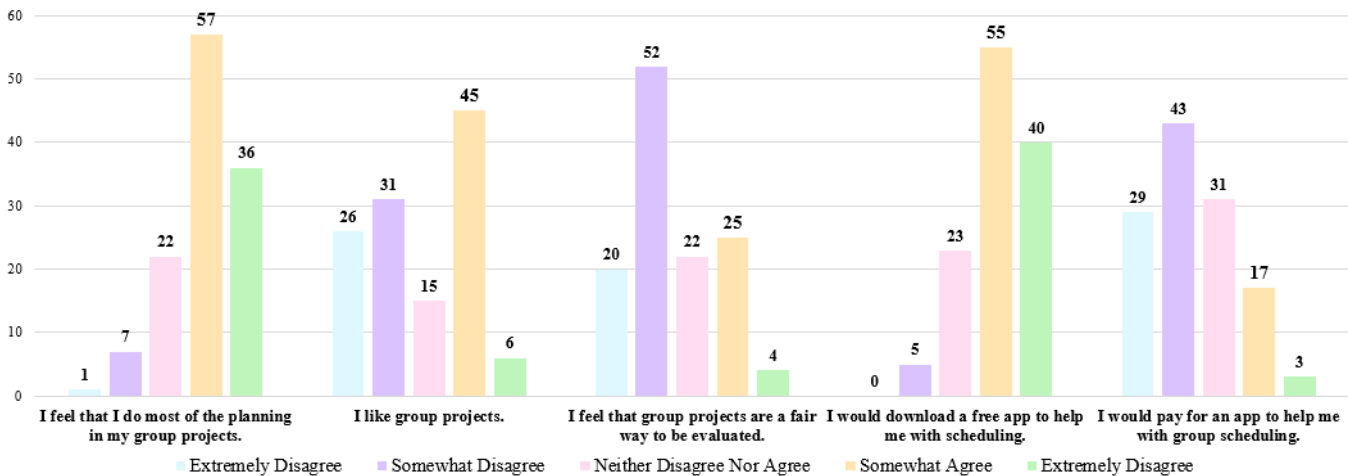
### Would You Be Willing to Pay \$.99 for freeUP?



### Would You Download a Free Group Scheduling App?

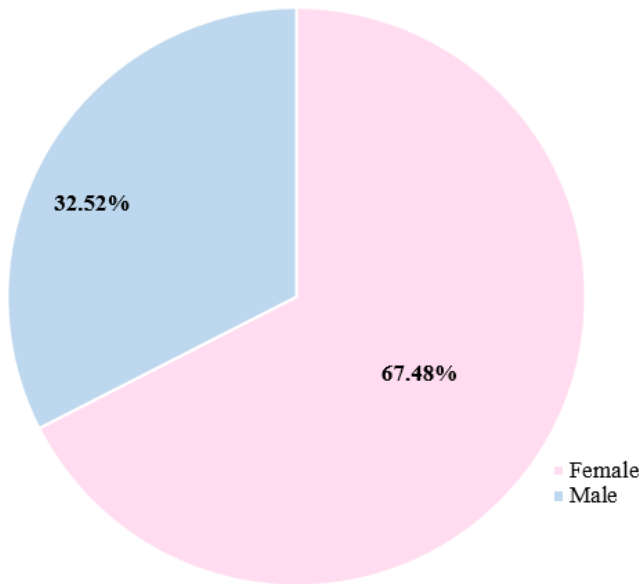


### Perceptions Surrounding Group Work and Technology

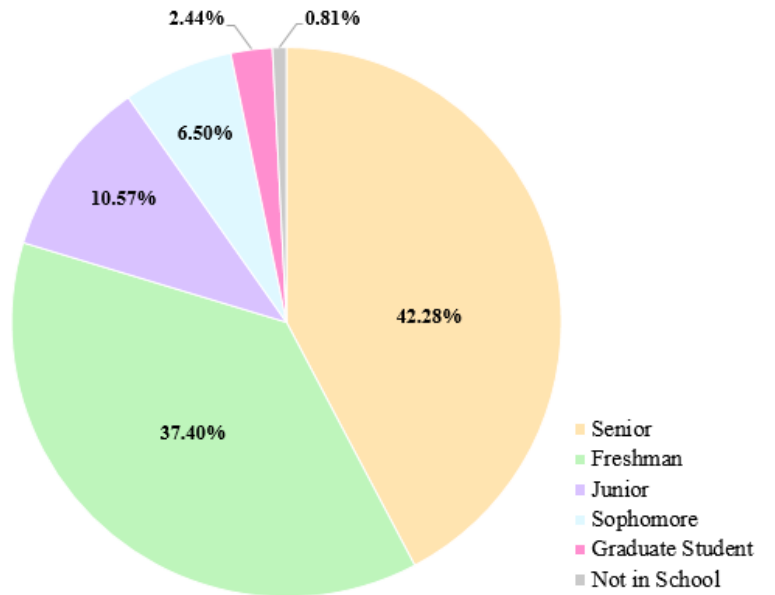


**Demographics:**

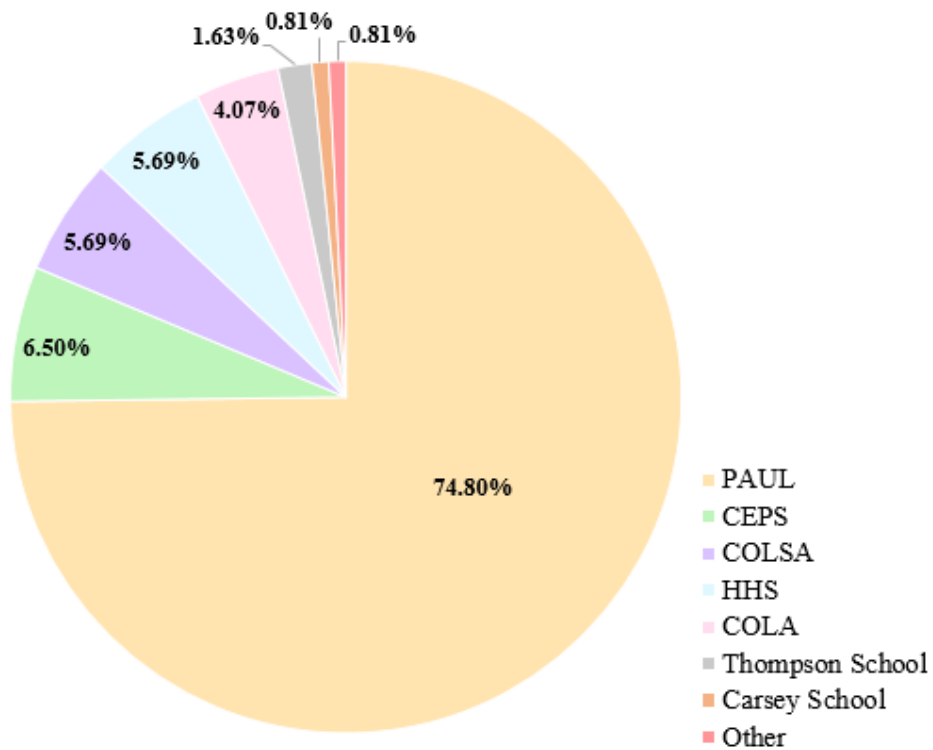
**Survey Respondents by Gender**



**Survey Respondents by Class Standing**



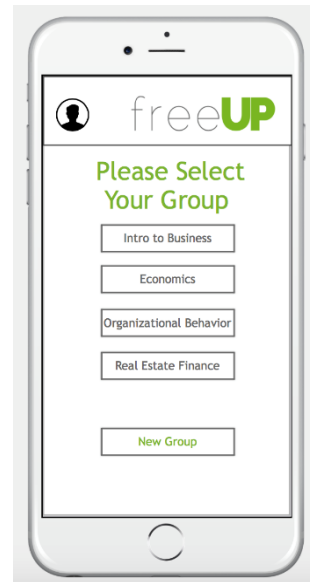
**Survey Respondents by UNH College**



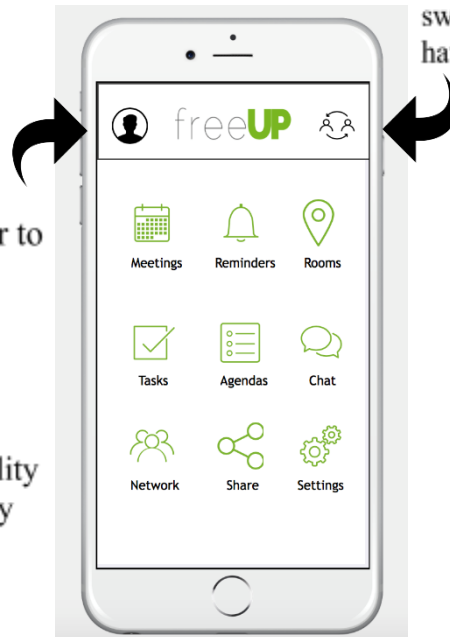
Appendix D: freeUP Prototype



This is the first screen a user would see upon downloading freeUP. The sign-on would be SSO based on the school's platform.



After signing in, a user would then select the group they would like to manage. If they need to create a new group, they have the ability to do so here.



This would allow the user to view their profile page.

Here, users can choose to switch groups easily without having to exit the app.

This is the landing page, where users can choose to use any of the built-in functionality (schedule a meeting, review the rooms they have booked, etc).

## References

- Bannister, S., Wickenheiser, H., & Keegan, D. (2014, February). Key Elements of Highly Effective Teams. Retrieved November 30, 2016.
- Bilal, M. (2014, October 14). Build an Effective Team to Achieve Your Goals and Objectives. Retrieved November 30, 2016.
- Daniel, T. (2015, July 23). Developing and Sustaining High-Performance Work Teams. Retrieved November 30, 2016.
- Duggan, T. (2016). Techniques of Coordination in an Organization. Retrieved November 30, 2016.
- Economy, P. (2013, November 14). 5 Steps to Great Meetings. Retrieved November 30, 2016.
- Guzzo, R. A., & Dickson, M. W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology*, 47: 307-338. Retrieved December 16, 2016.
- McNamara, C. (2016). All About Team Building. Retrieved November 30, 2016.
- Moran, G. (2013, March 13). 3 Ingredients for Building Effective Teams. Retrieved November 30, 2016.
- Pigeon, Y., & Khan, O. (2016). Leadership Lesson: Tools for Effective Team Meetings - How I Learned to Stop Worrying and Love my Team. Retrieved November 30, 2016.
- Shandrow, K. L. (2016, June 21). Tired of Useless Meetings? 9 Ways to Make Them More Effective. Retrieved November 30, 2016.
- Sun, C. (2007, November 6). 10 Ways to Make Meetings More Effective. Retrieved November 30, 2016.
- Tracy, B. (2015). 7 Ways to Make Meetings More Efficient. Retrieved November 30, 2016.