



BOOK

OF DREAMS

Education

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- Scenarios

- [Attendance Management](#)
Easy management and reporting of student attendance
- [Academics Assistant](#)
One Hub for students to manage their day
- [Event Finder](#)
Discover events, workshops in campus and participate effortlessly



For each scenario:

- Scenario Vision
- Primary Persona
- Scenario Storyboard
- Solution Design Best Practices
- Solution Architecture

Education Book of Dreams

Attendance Management



Scenario Vision



Context

- Sandra is a History teacher at Contoso schools and is responsible for handling 5 different classes at different levels. She has at least 2 lectures per day to deliver
- One of the routine activities that Sandra is required to perform is record attendance of students in her class. She does it via a roll call at beginning of class, aggregating it at end of her day for reporting to a central record register

Current State

- ⚠ Sandra starts her day by going through her calendar and identifying the classes and lectures she has to deliver.
- ⚠ Once she starts the class delivery, she performs a roll call of student names from the list she maintains of class members for classes she teaches
- ⚠ The students reply one by one during the roll call and this typically takes 5- 10 minutes to complete accurately.
- ⚠ It is also difficult to determine if the students are actively listening to the class after the attendance roll call is complete. This used to be simpler when Sandra had in-person classes
- ⚠ Students who are unable to attend classes intimated the same to their teachers and the administration through emails.
- ⚠ The administrator approves the leave requests of students and proceeds to inform the same to the concerned teacher over email.
- ⚠ At the end of day, Sandra compiles reports manually across all of her classes and emails before uploading it in the database

Future State

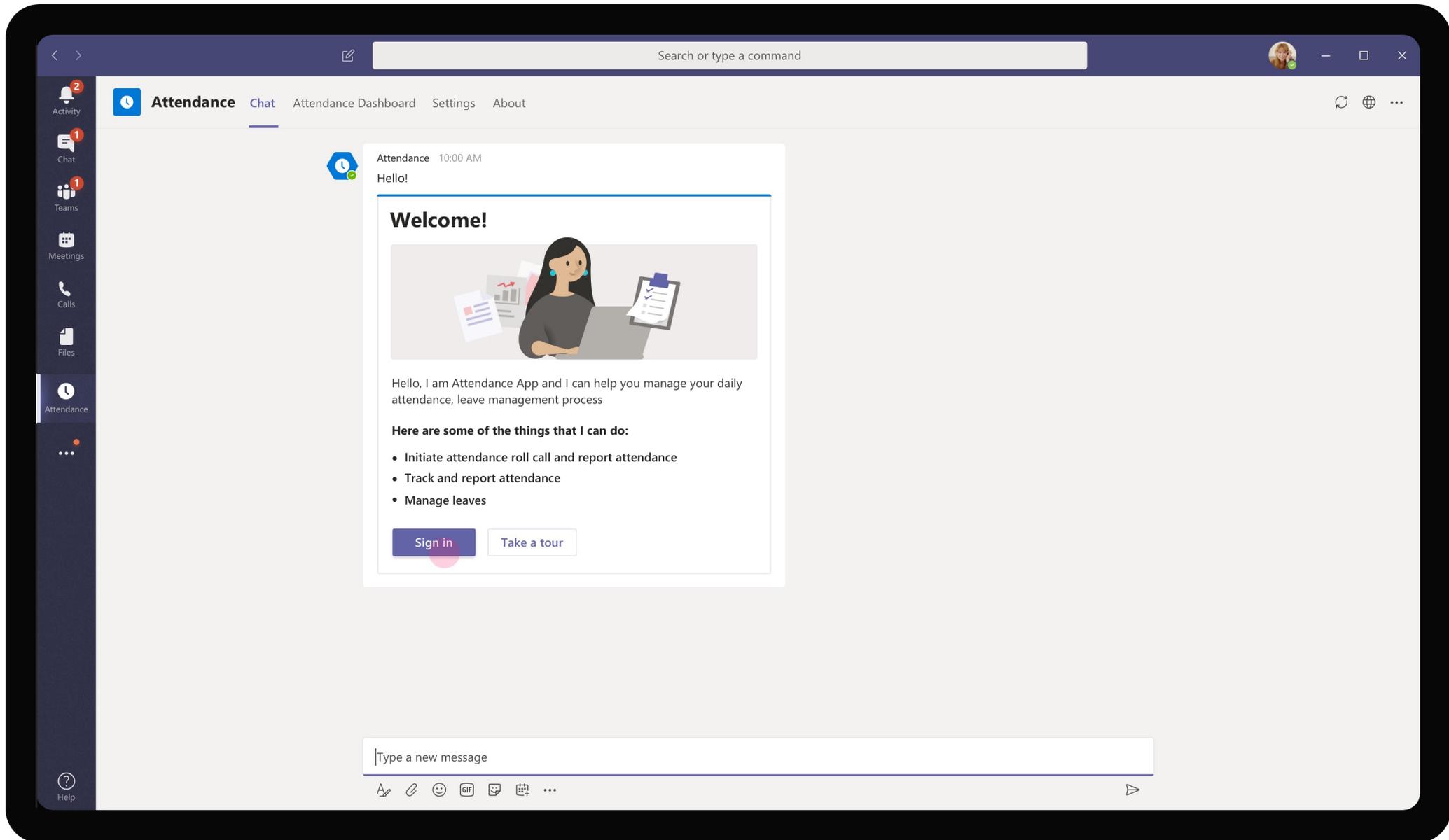
- ✓ Sandra gets to see her list of classes and reminder from the Teams app on upcoming class for her to confirm
- ✓ The app provides an attendance code that Sandra can flash at any time during the class for students to view and enter in their app
- ✓ During the class, students are prompted to enter their attendance code automatically. Along with code, the app also allows Sandra to ask an optional question that gives a hint to student's attentiveness in class content
- ✓ As the class ends, attendance report is compiled automatically by the app and is available for Sandra to view in a dashboard fashion.
- ✓ The attendance report can also be downloaded as an excel file for Sandra to perform any further analysis
- ✓ Students are provided with friendly options to submit their leave requests to the school administrators
- ✓ The students and teacher get a real time view of leave requests getting accepted by the administrator.



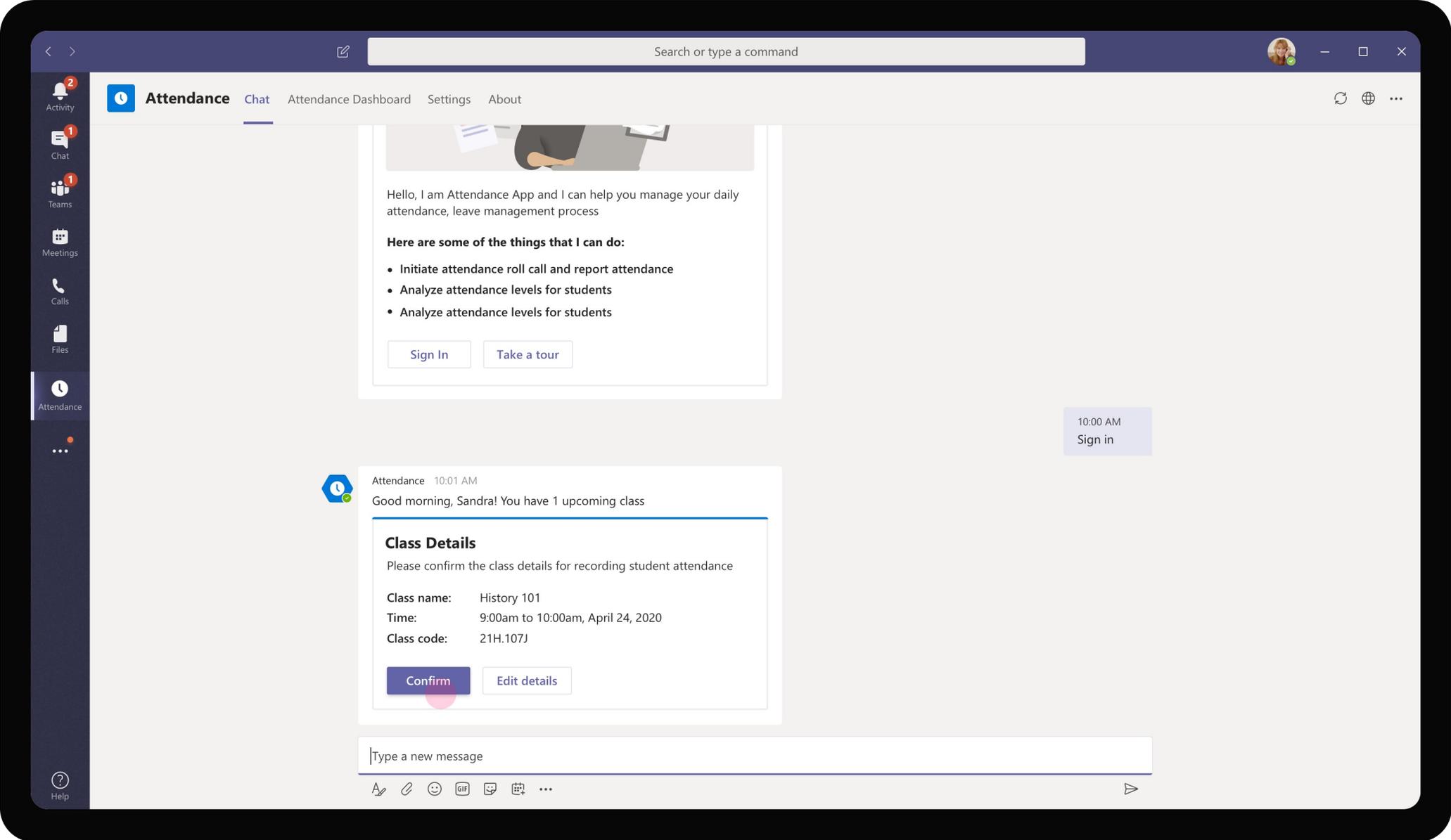
Sandra Jones, History Teacher

Sandra is a history teacher who recently started offering her classes virtually over Teams. She is not particularly tech savvy and likes to use apps with simple, non-intrusive user experience to manage her day to day classroom activities

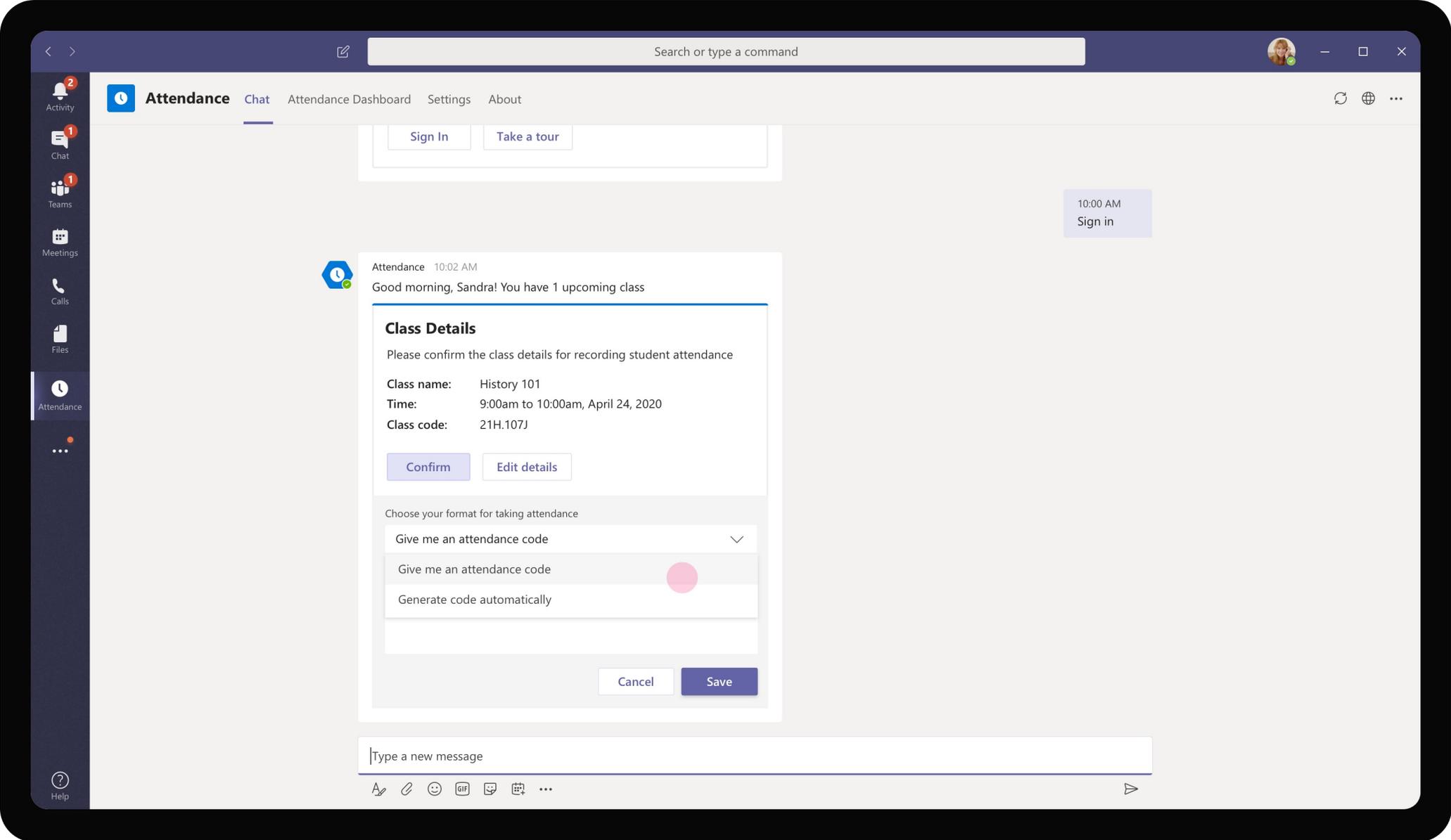
Sandra delivers her class on Teams meeting and she wants to easily handle tracking attendance without disrupting the class and wasting class time



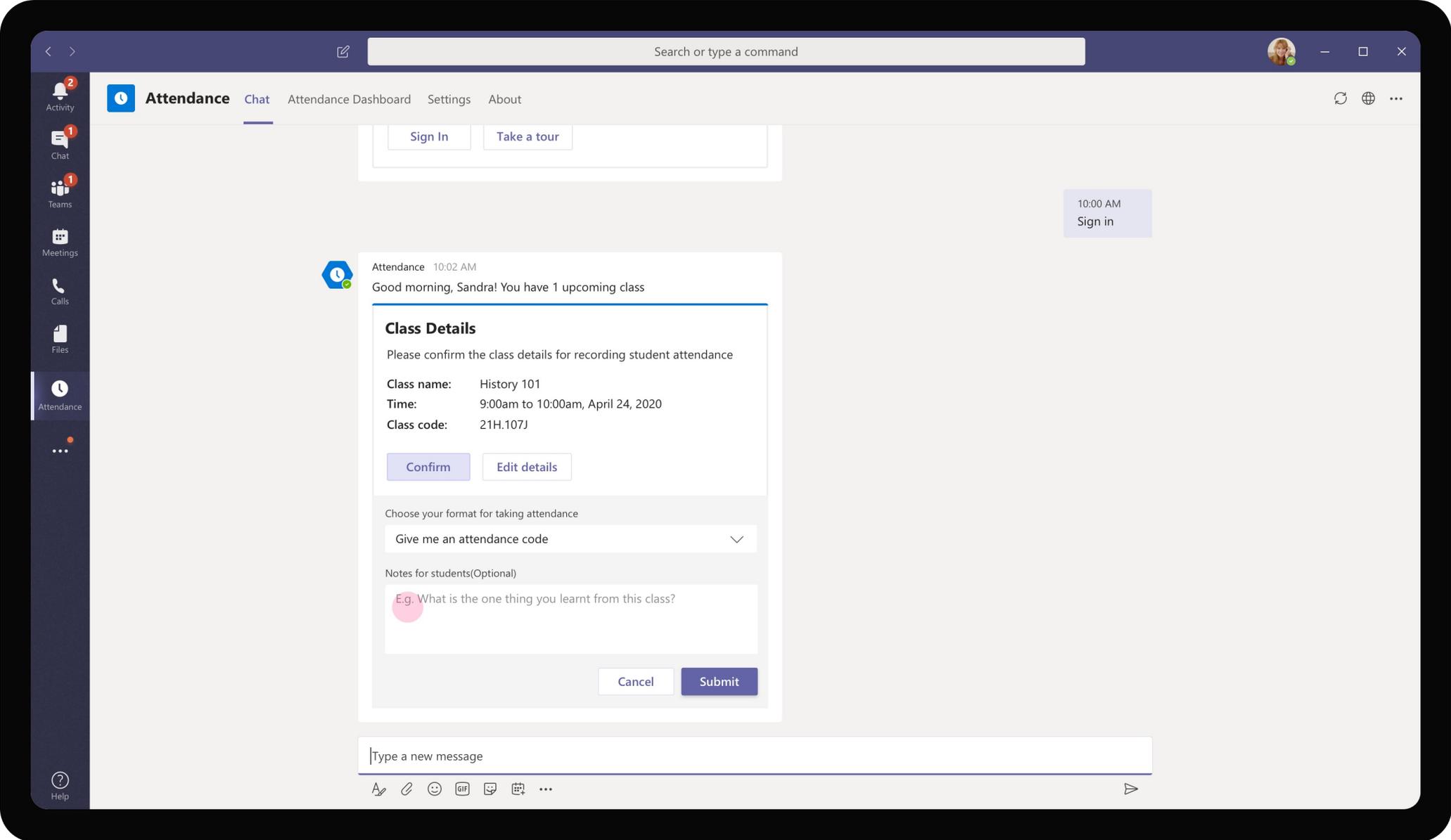
The app sends a welcome message on installation of the app introducing the features of the app. Sandra signs in using the welcome card.



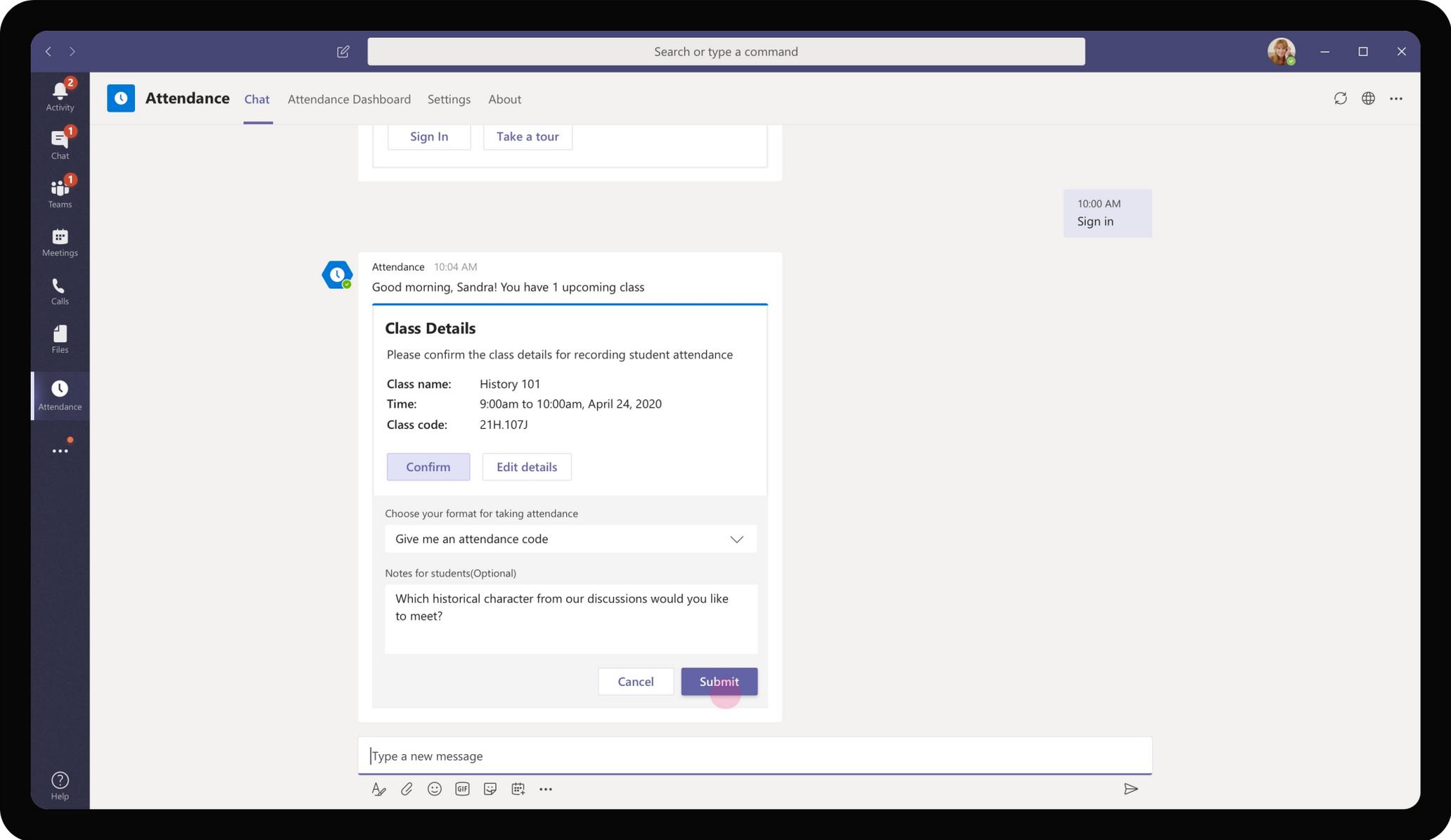
After signing in the app sends a card with upcoming class details fetched automatically from Sandra's calendar. Sandra may choose to confirm the class information or update details such as time, date, duration in case of changes in class schedule.



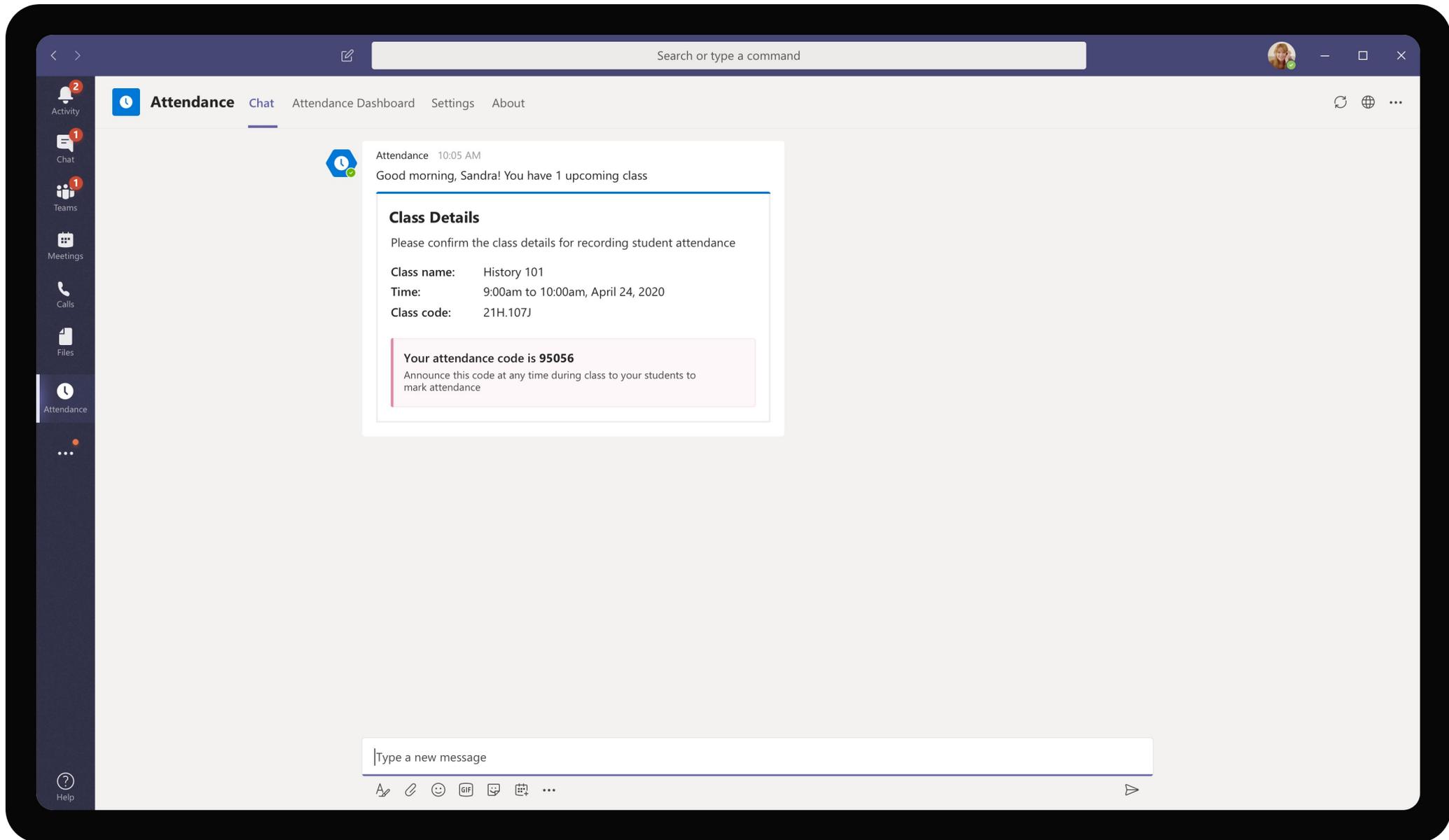
As Sandra confirms the class, the app provides a couple of options for Sandra to choose from to generate attendance code. This unique code will be shared during class for the students to key in marking their attendance.



Optionally Sandra may also choose to ask a simple question to students in the class to capture student's answer along with attendance code. This question could be on the day's topic to check student's attentiveness in the online class.



Sandra chooses to ask a question relevant to the day's class but which might have different responses from different students. The question is also framed such that students would be able to answer them only when they have been attentive in sessions.



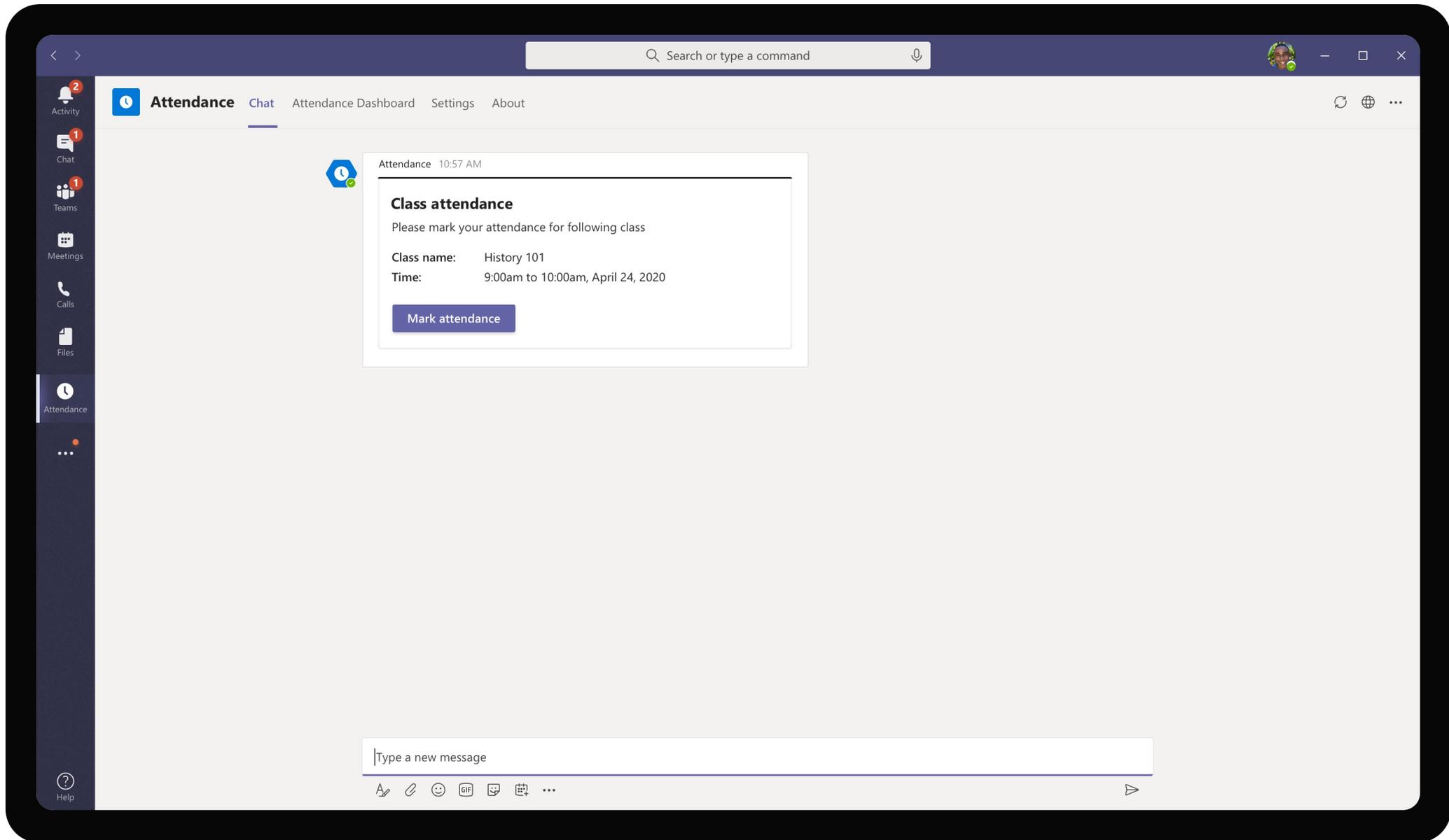
As Sandra submits the adaptive card reflects the generated code that Sandra can manually announce during the virtual class session.



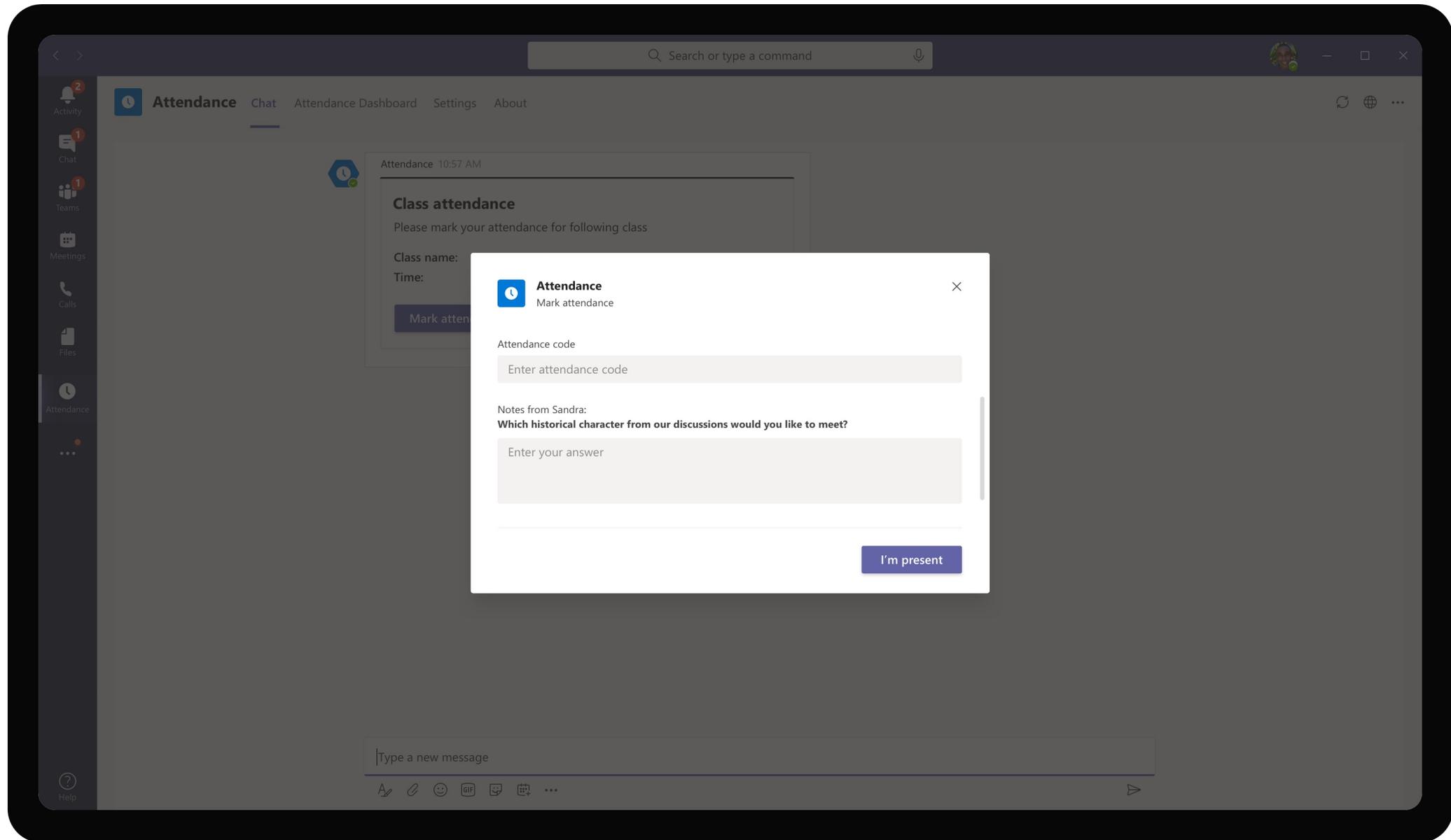
Roy Howard, Student

Roy Howard is one of the students in Sandra's class. Roy has taken a liking to virtual classes online but finds that there is some time wasted in administration activities of marking attendance, applying for leave. Roy also feels it is hard to keep up with change in schedule and timing of classes when it happens virtually

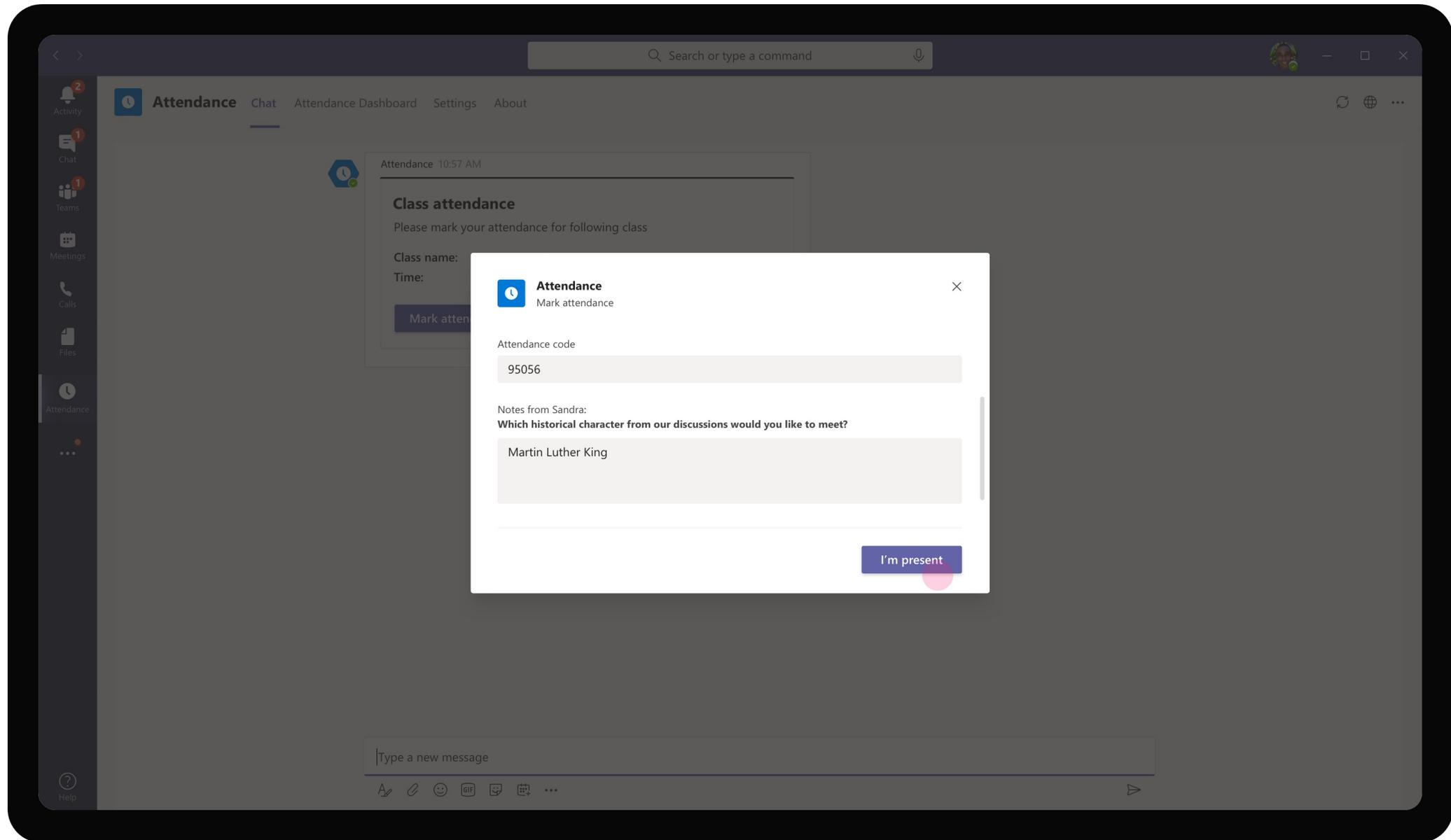
Sandra has to deliver her class as a Teams meeting and wants to easily handle tracking attendance without disrupting the class and wasting class time



As Sandra starts the scheduled meeting for her history session, all students in the class get a message on their app from Attendance bot confirming the class details and providing option for students to mark attendance.



At any time during the class lecture Sandra may choose to announce the code over Teams meeting. Sandra may choose to vary the time of announcement of attendance in each class



As Sandra provides the attendance code over Teams meeting, Roy enters the same in the form for attendance code. In addition, Roy mentions his response to the question posed by Sandra before marking his attendance.

The screenshot shows a Microsoft Teams chat window with the 'Attendance' app open. The chat message, timestamped 10:59 AM, contains the following information:

Class attendance
Please mark your attendance for following class

Class name: History 101
Time: 9:00am to 10:00am, April 24, 2020

Your attendance has been saved! ✓

86%
Attendance

45.50 Classes held	37.50 Classes attended	94.68 Projected Att. %
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View Details

The interface includes a left-hand navigation pane with icons for Activity, Chat, Teams, Meetings, Calls, Files, and Attendance. The top of the chat window has a search bar and a user profile picture. At the bottom, there is a text input field for sending messages and a toolbar with icons for attachments, emojis, and other chat functions.

Once attendance is submitted Roy gets a snapshot of his attendance percentage for History class. The app also provides an accurate view of projected attendance percentage if Roy continues to attend all classes until end of term.

After class, Sandra prefers to check consolidated view of attendance for her class. She proactively reaches out to students who have low attendance to understand their issues

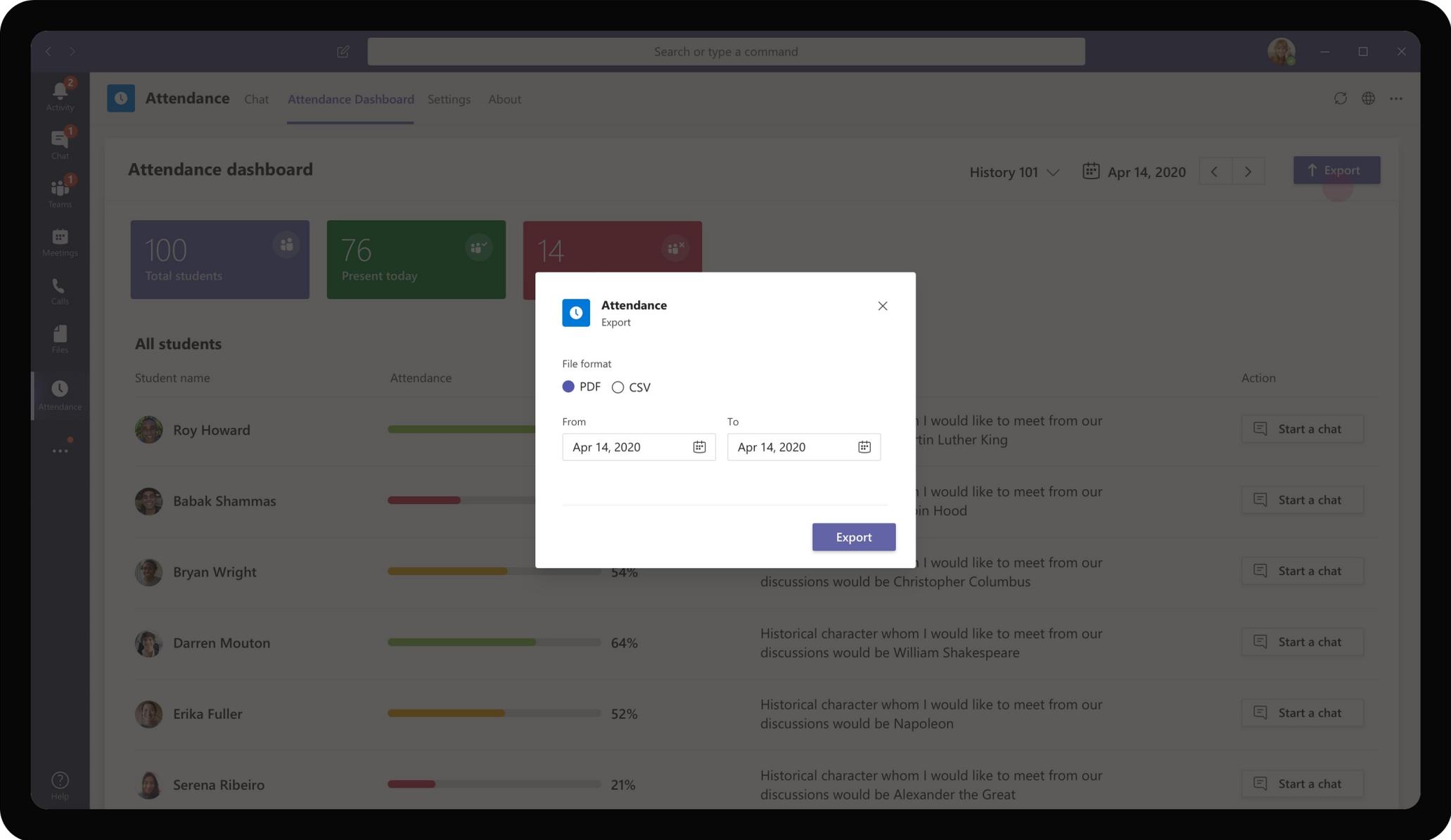
Attendance dashboard History 101 Apr 14, 2020 Export

100 Total students
76 Present today
14 Absent today

All students

Student name	Attendance	Notes from student	Action
Roy Howard	<div style="width: 78%;"><div style="width: 78%;"></div></div> 78%	Historical character whom I would like to meet from our discussions would be Martin Luther King	Start a chat
Babak Shammam	<div style="width: 41%;"><div style="width: 41%;"></div></div> 41%	Historical character whom I would like to meet from our discussions would be Robin Hood	Start a chat
Bryan Wright	<div style="width: 54%;"><div style="width: 54%;"></div></div> 54%	Historical character whom I would like to meet from our discussions would be Christopher Columbus	Start a chat
Darren Mouton	<div style="width: 64%;"><div style="width: 64%;"></div></div> 64%	Historical character whom I would like to meet from our discussions would be William Shakespeare	Start a chat
Erika Fuller	<div style="width: 52%;"><div style="width: 52%;"></div></div> 52%	Historical character whom I would like to meet from our discussions would be Napoleon	Start a chat
Serena Ribeiro	<div style="width: 21%;"><div style="width: 21%;"></div></div> 21%	Historical character whom I would like to meet from our discussions would be Alexander the Great	Start a chat

Sandra's persona app has an attendance dashboard tab that provides attendance details of all students in her class. She is able to switch between different classes if she handles more than one. It provides a clear view of students who are low on attendance for Sandra to reach out.



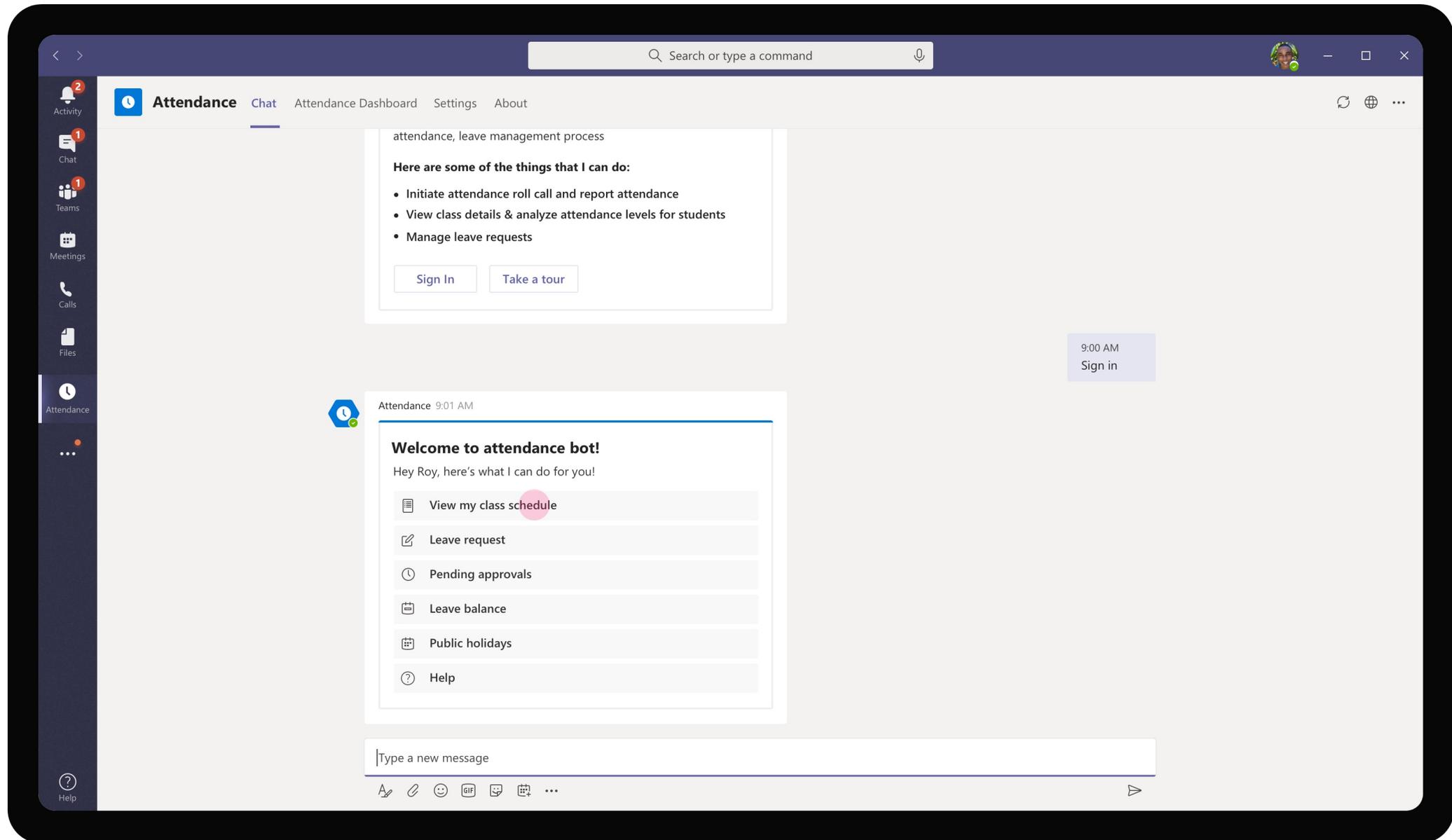
The app also provides an easy way for Sandra to download the attendance details over a range of dates as a csv file for any further analysis



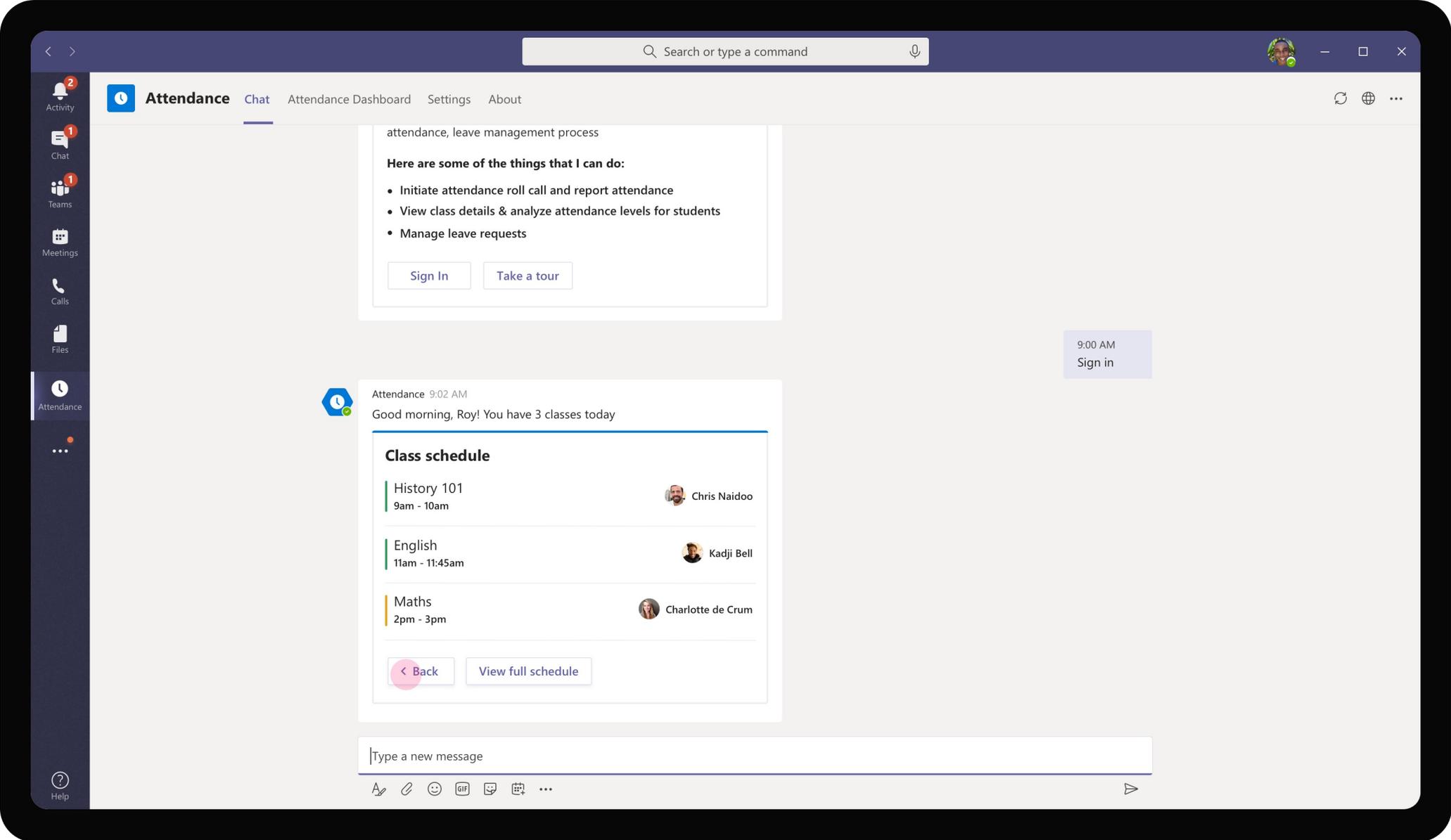
Roy Howard, Student

Roy Howard is one of the students in Sandra's class. Roy has taken a liking to virtual classes online but finds that there is some time wasted in administration activities of marking attendance, applying for leave. Roy also feels it is hard to keep up with change in schedule and timing of classes when it happens virtually

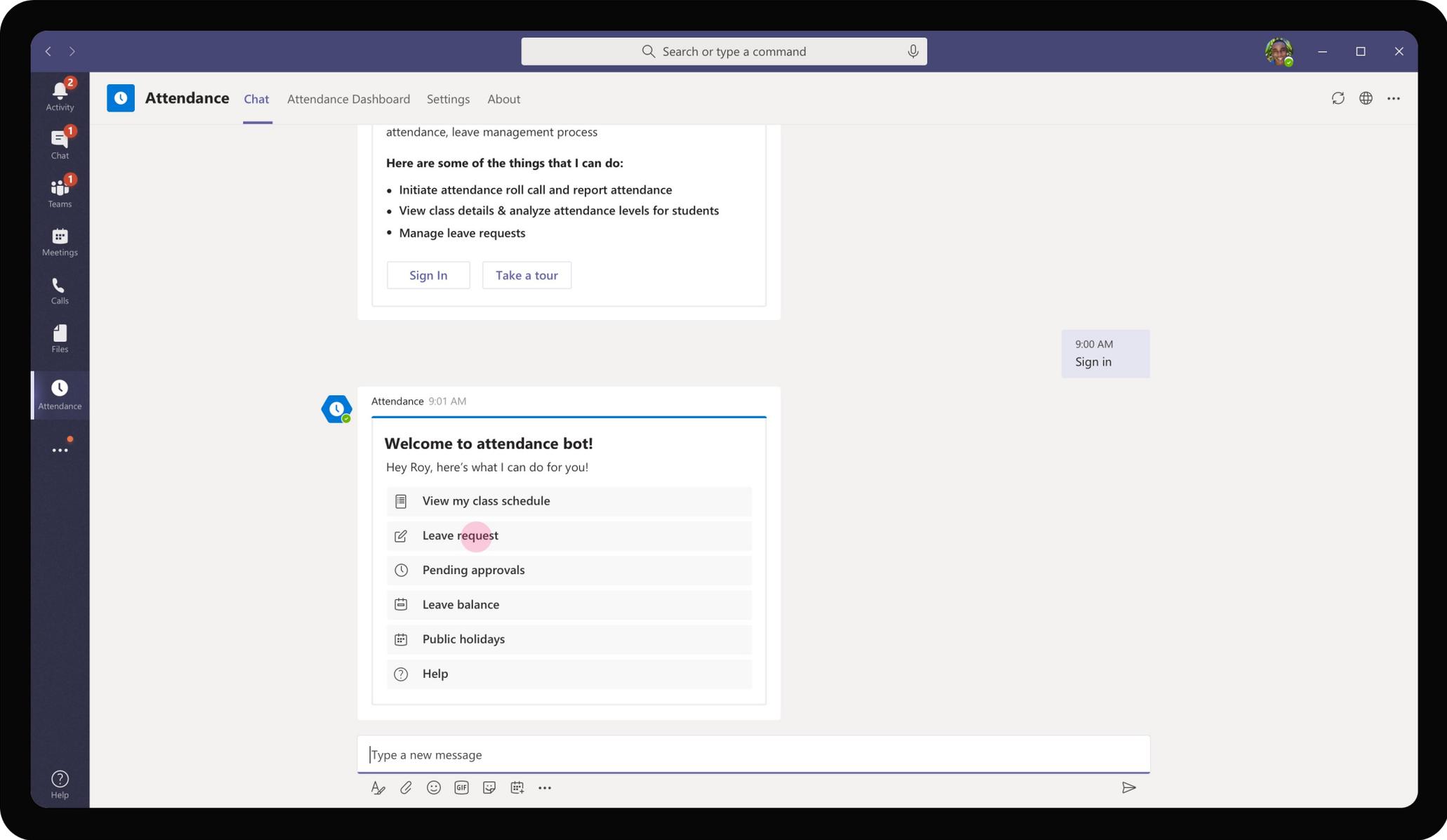
Roy is representing his school in a sports event and needs to apply for leave of absence from school administration



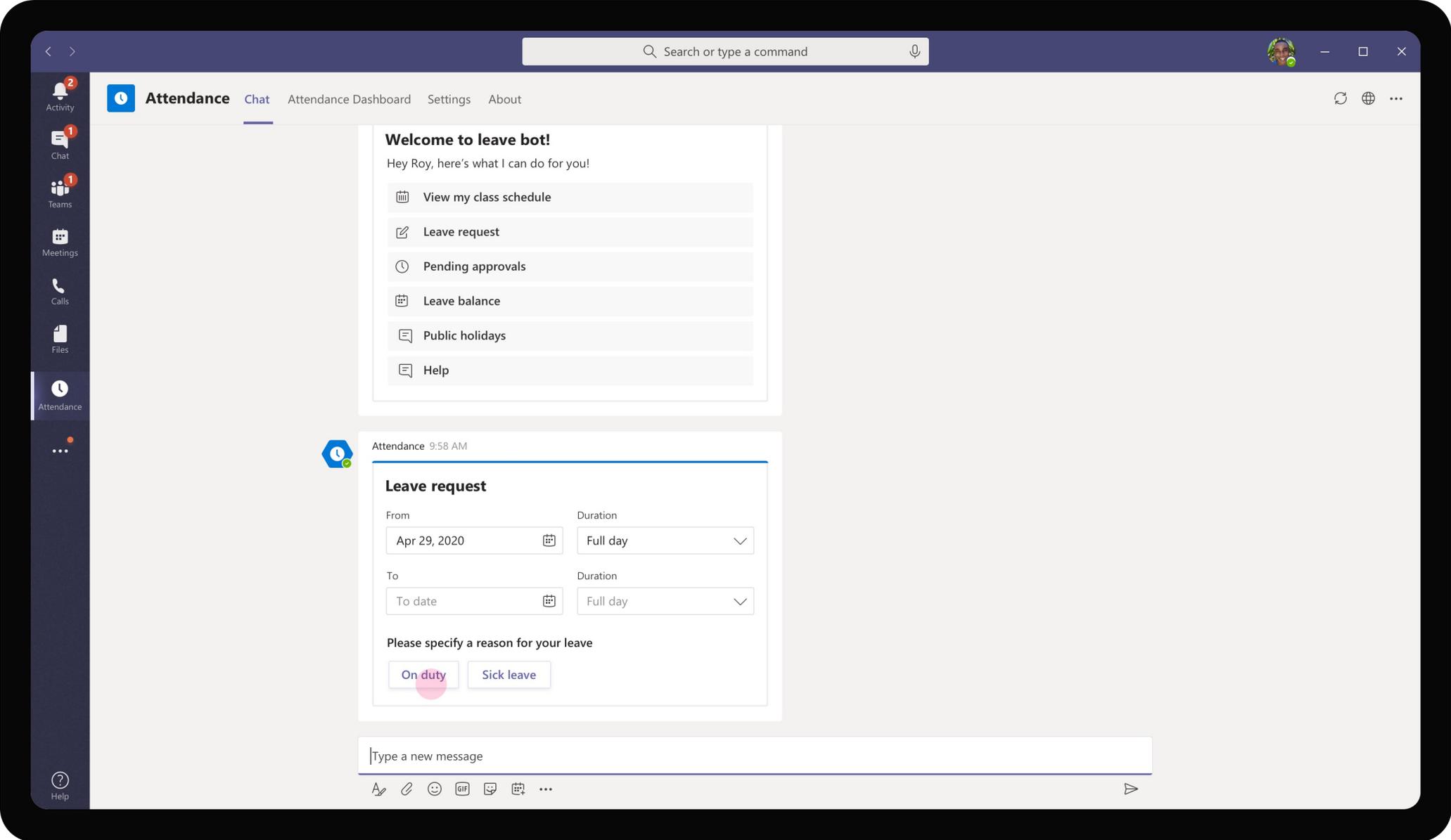
As Roy logs in to the app he is greeted with a set of options available for a student. Roy wants to see the class schedule for the day to check the classes he would be missing.



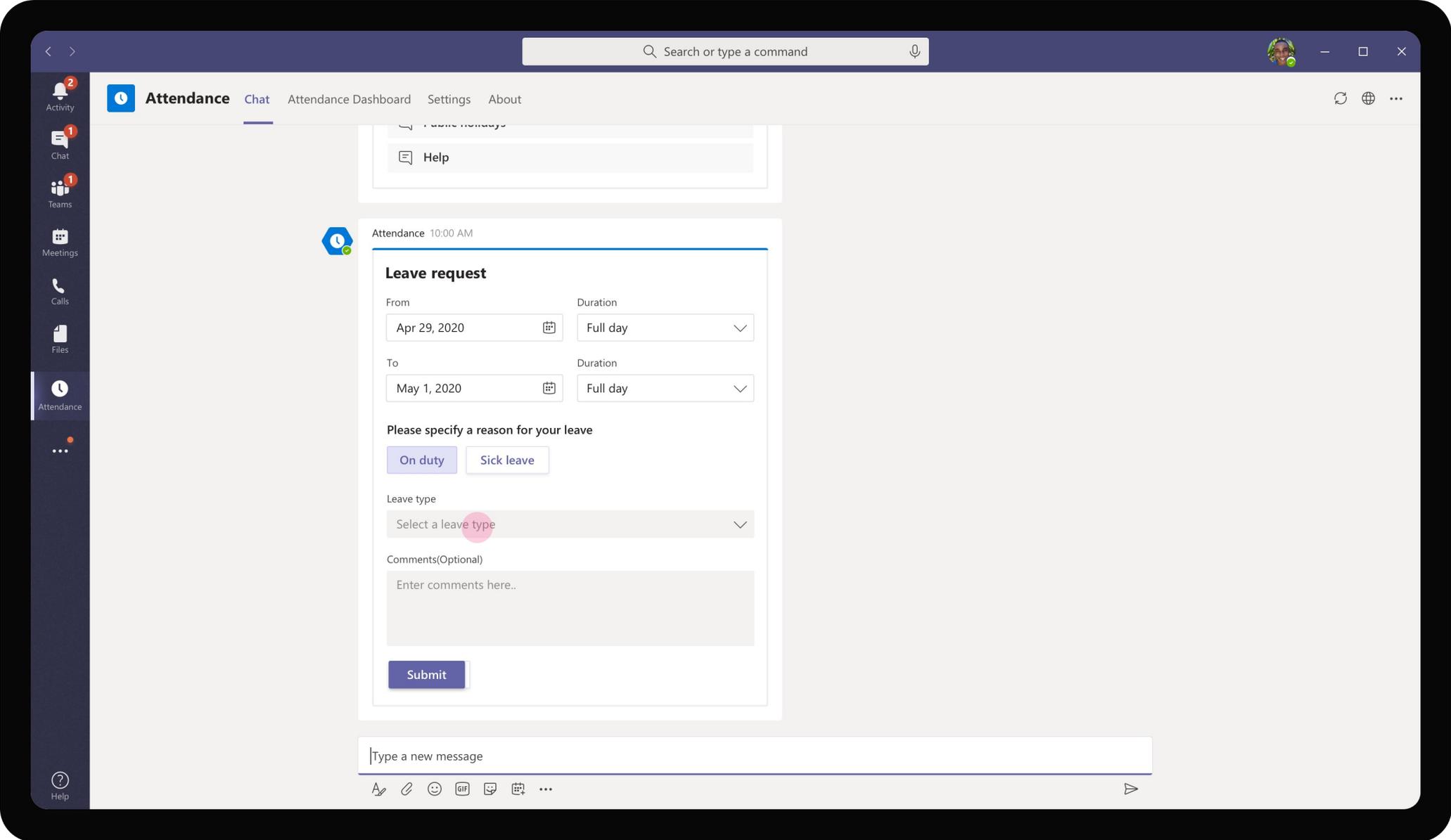
On viewing the class schedule the adaptive card refreshes to show the classes in his day with the professors who would be leading the class.



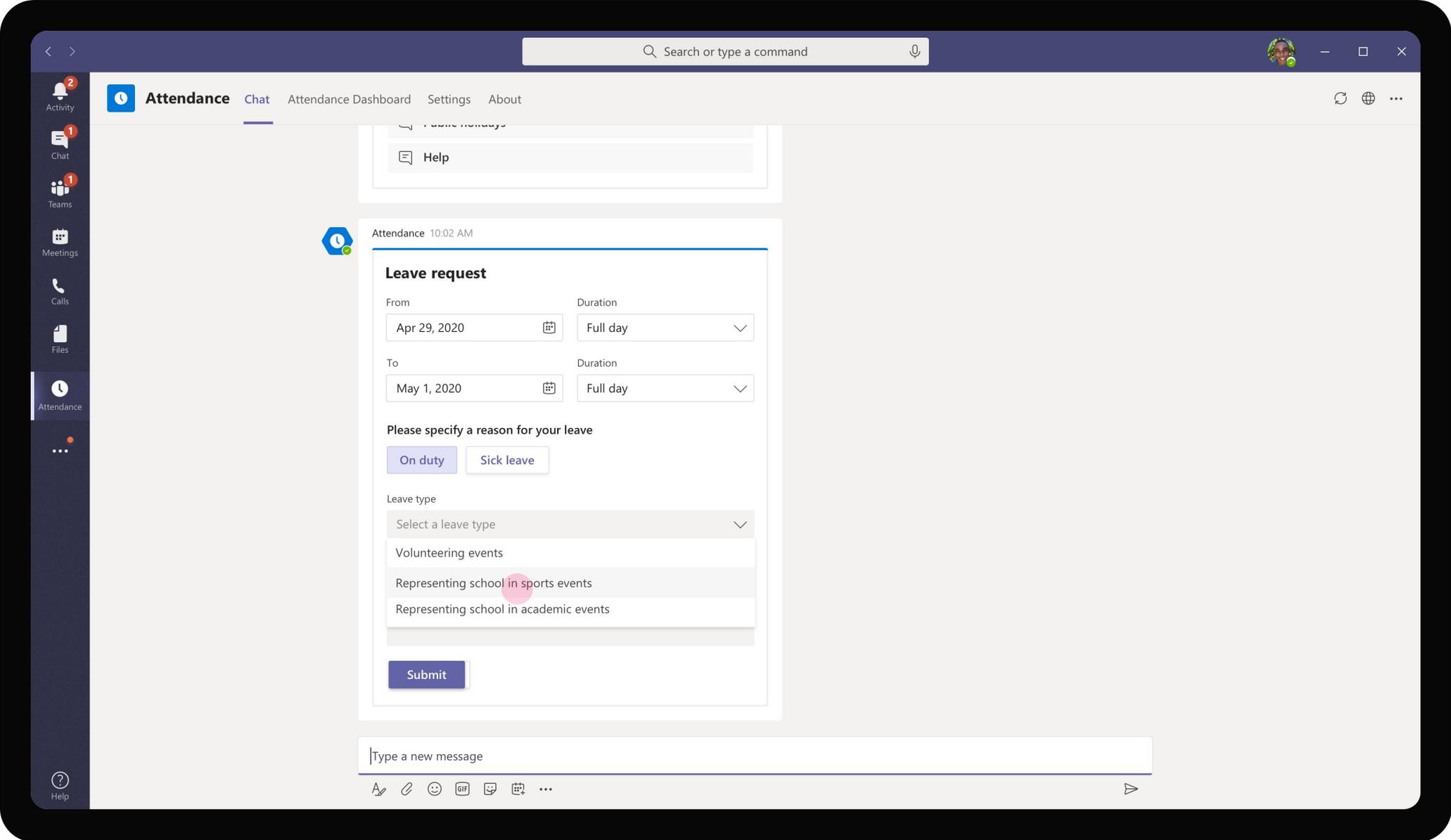
Roy gets back to the original menu of options to apply for a leave



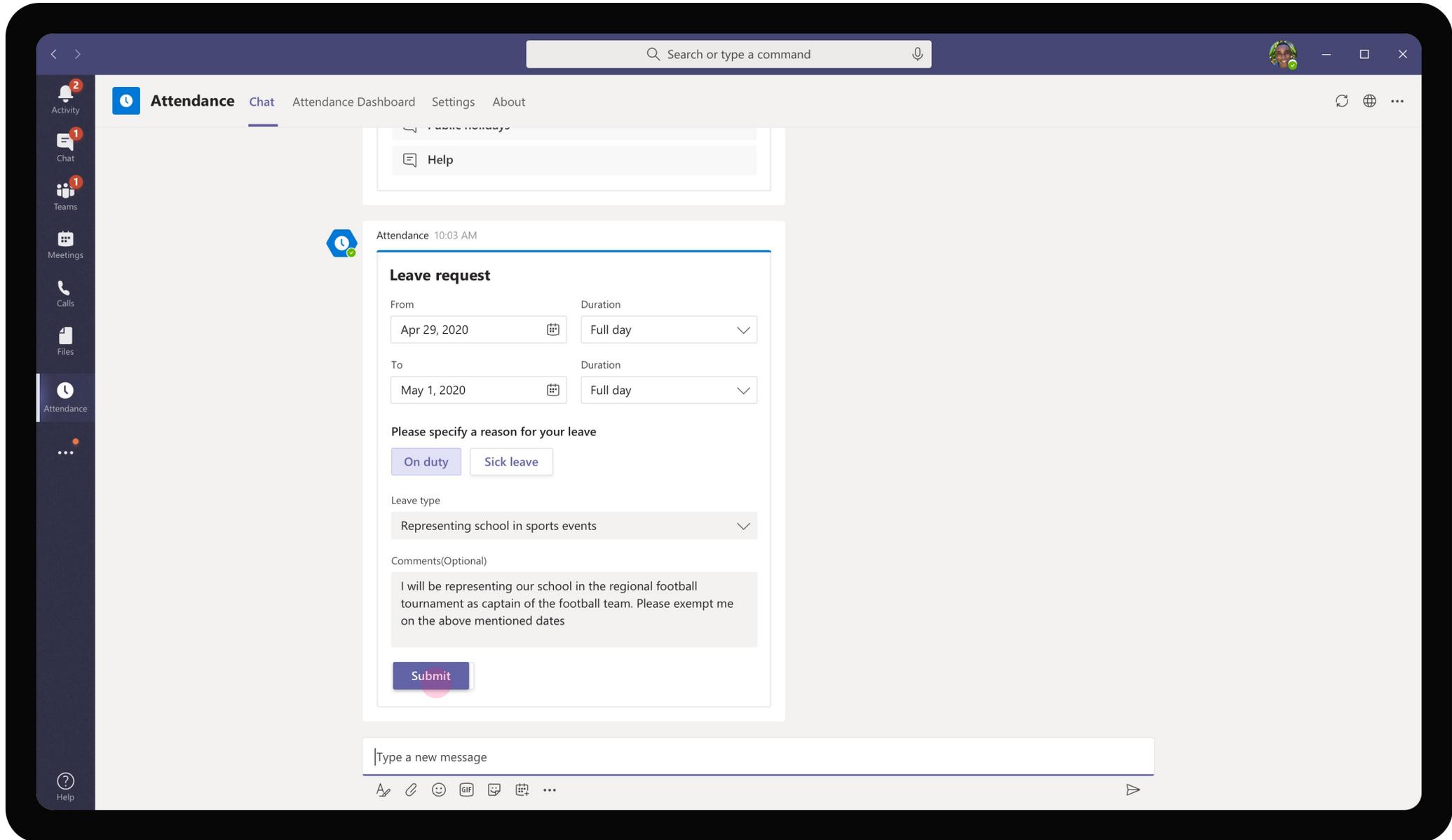
After filling in required details Roy chooses the reason for leave as On Duty as he is going to be absent representing the school in a sports event.



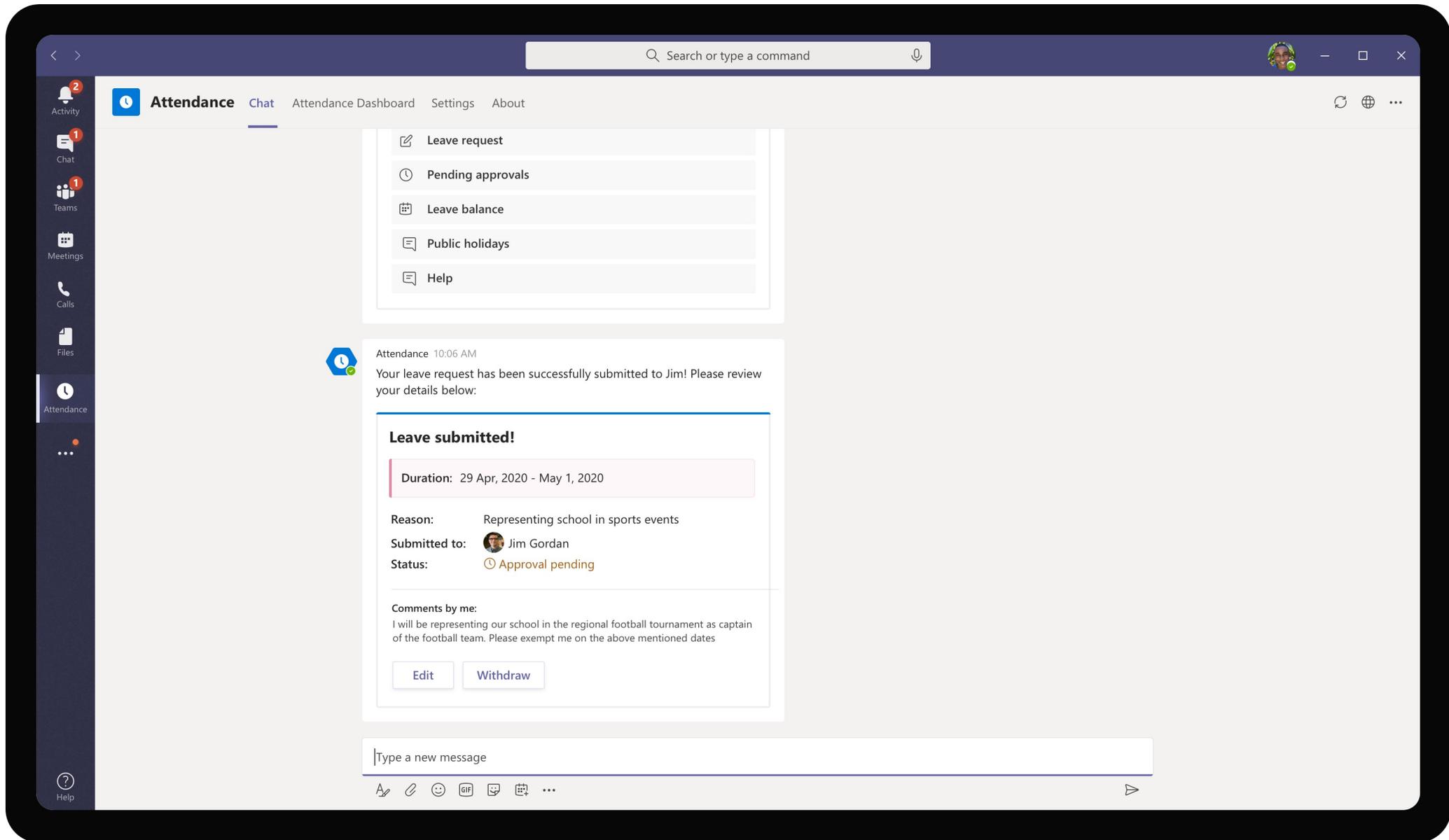
The card expands to show further options relevant to On Duty category of leave requests.



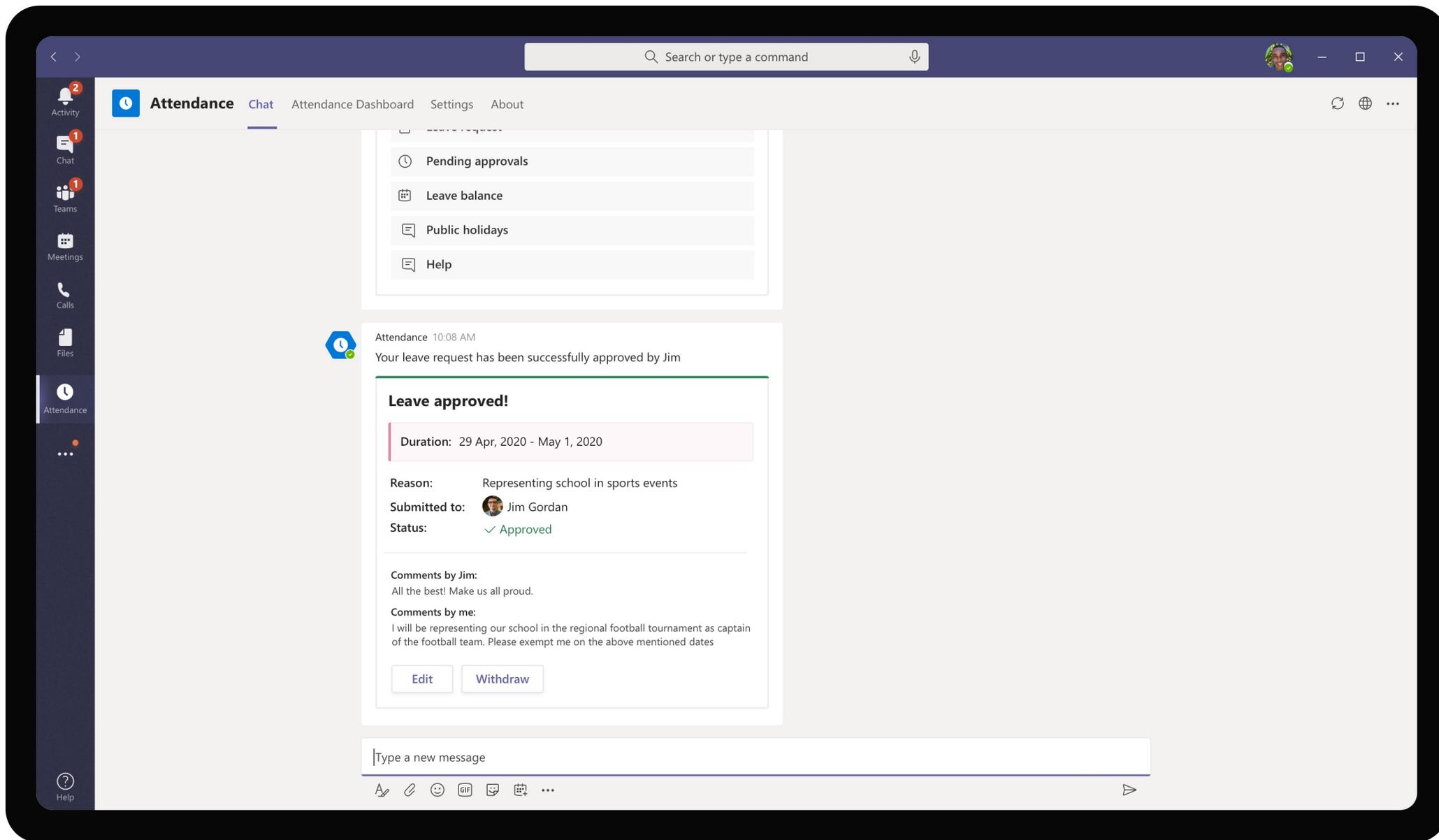
Roy chooses the type of event he will be attending on duty. Since he is representing the school in a sports meet, he chooses the sports event option.



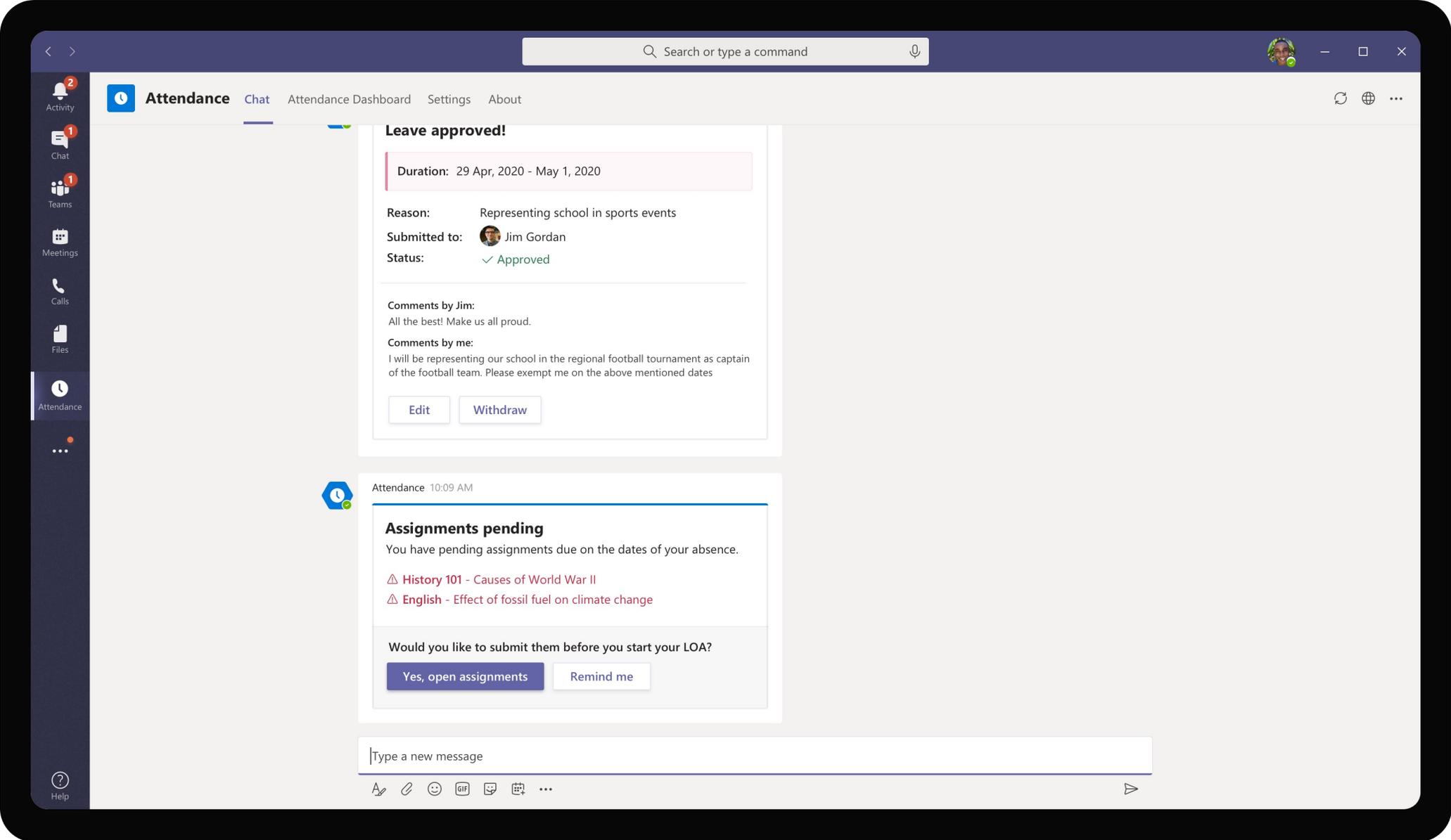
In the comments box Roy provides additional justification that will be presented to the administration. The administration can view this justification before approving the leave request.



As Roy submits the request, the card shows a summary of Roy's leave request. It highlights the administration lead who is responsible for approving the request and the status of approval.



Once Jim Gordon approves the request Roy's leave request card refreshes to show the approval status as Approved and shows comments from the approver.



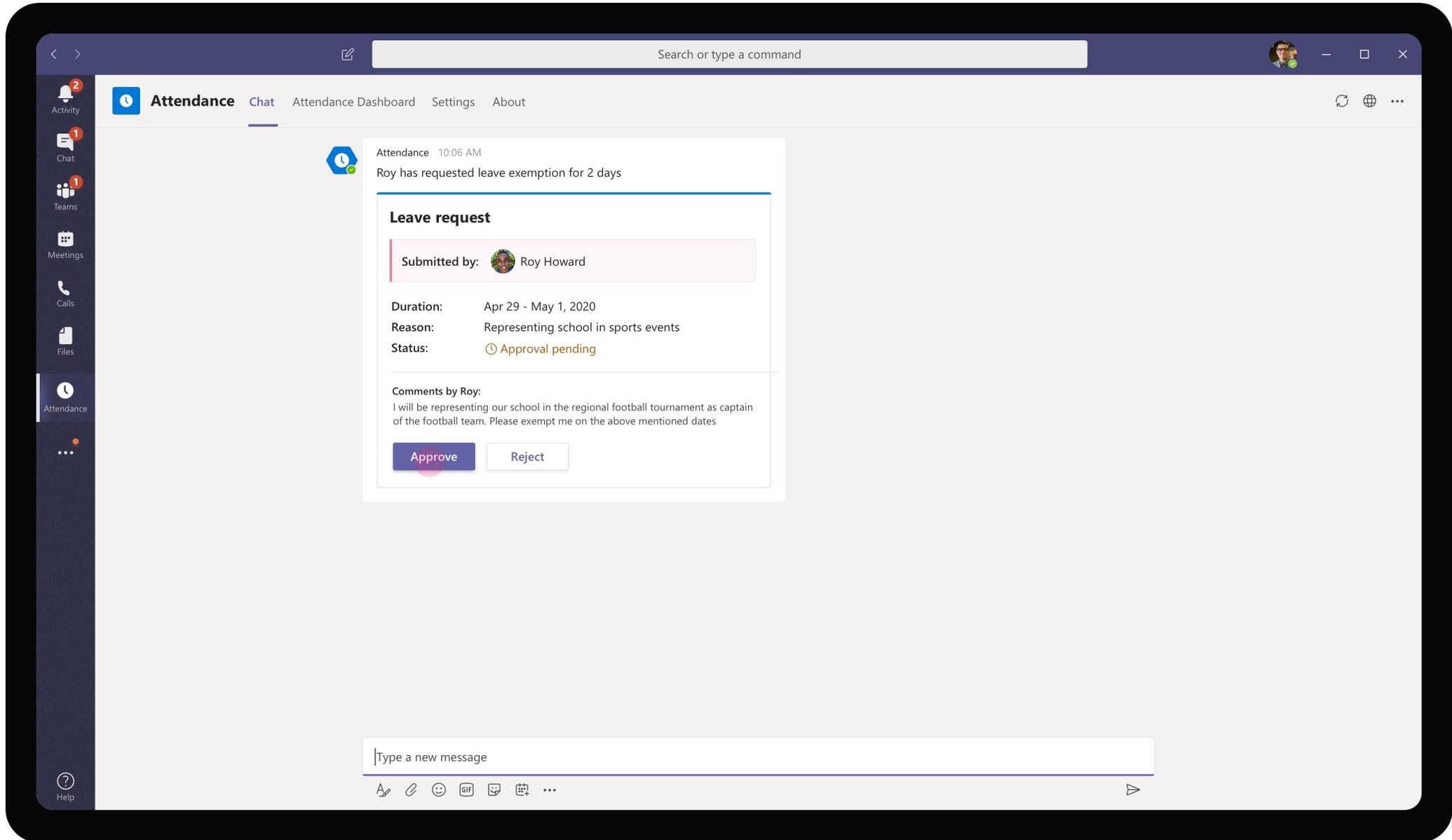
The app recognizes that Roy will be absent on the specified leave request days. It checks if Roy has any pending assignments due on those dates and reminds him to submit the assignments so as to not miss the deadline.



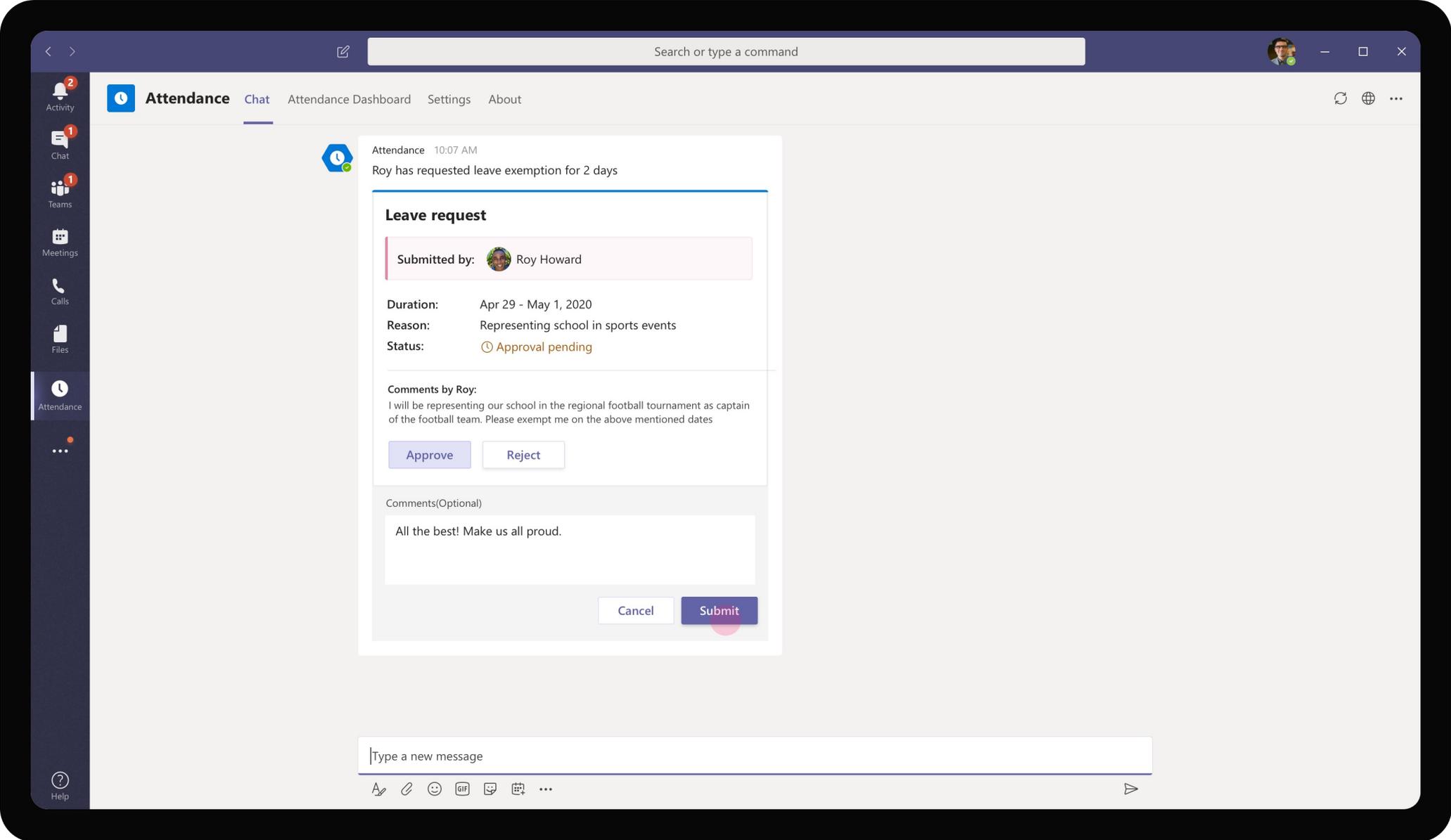
Jim Gordon, Administrator

Jim Gordon is a member of school administration is responsible for handling leave requests of certain classes. Jim verifies leave exemptions that are submitted by students and is responsible for easing the life of students steering them away from admin and paperwork for simple tasks.

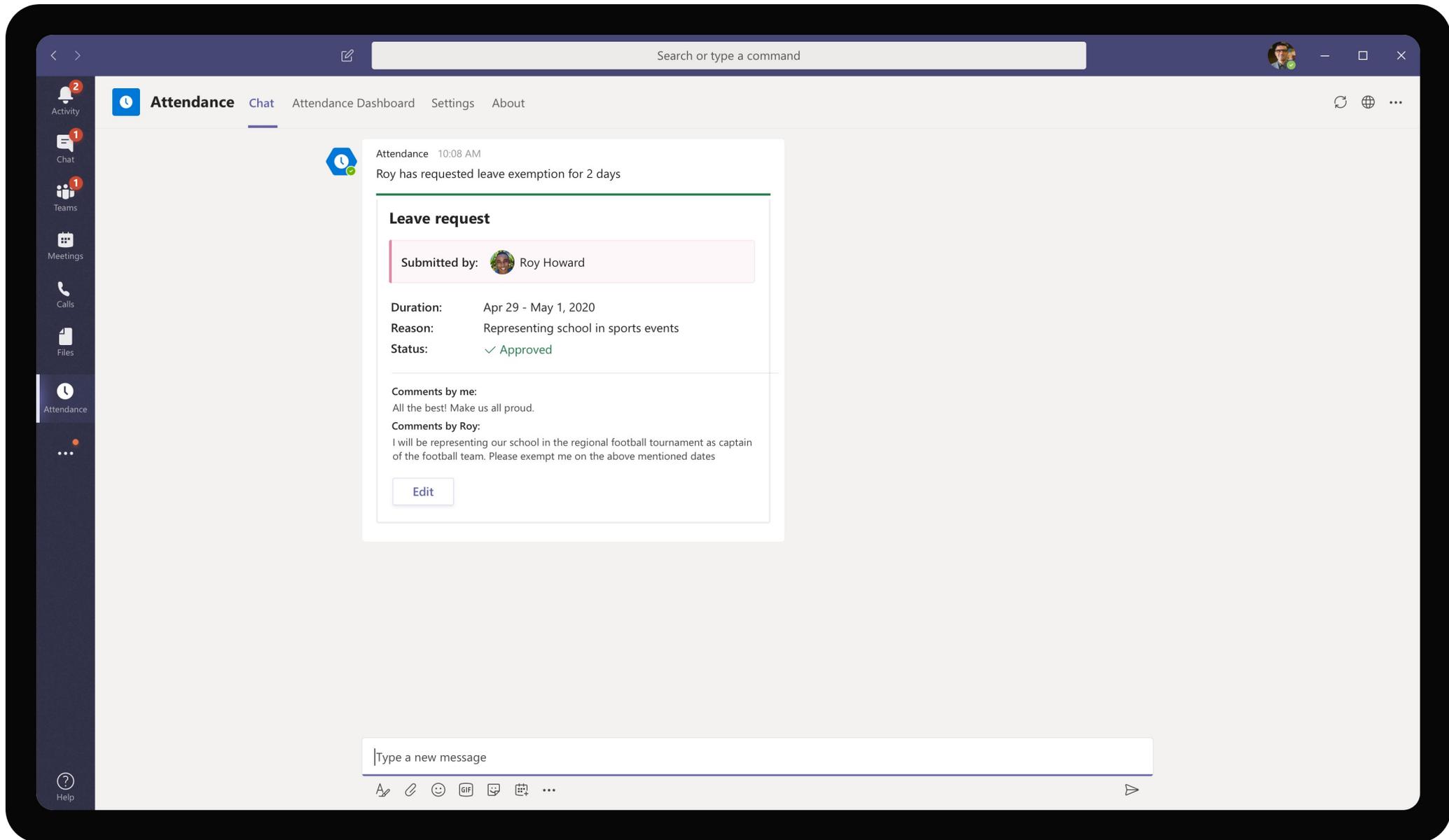
Jim Gordon receives leave approval requests among other administrative tasks from high school students



As Jim goes about his day he receives request from Roy Howard for approving a leave request for 2 days. Jim sees that Roy has also provided the required justification for exemption.



As the request is valid and Jim is aware of the upcoming sports meet, he proceeds to approve the request right away.



The app provides confirmation of approval back to Jim and he is able to edit the request if required.

Solution Highlights – Best Practices

Key Solution Design Considerations

Platform Extension Points

- **[Personal Scoped App](#)** The app is designed as a personal scope app for the teacher as information that the teacher needs to access would be pertaining to their class / subjects and not relevant for other teachers. In addition, it should not be visible for students as well. It is essentially information useful for each teacher individually
- The adaptive card which asks students to enter their attendance code can be implemented as a card in channel scope as well. This would require configuring of right channels for each subject / class as part of app experience
- **[Personal Bot](#)** – A personal scope bot handles all attendance and leave management requests. Since attendance and leave management are performed at a student level, a personal bot is used here. There is no reason for a student's attendance %, leave balance etc. need to be displayed in a Team / channel. It's personal for each student using the app

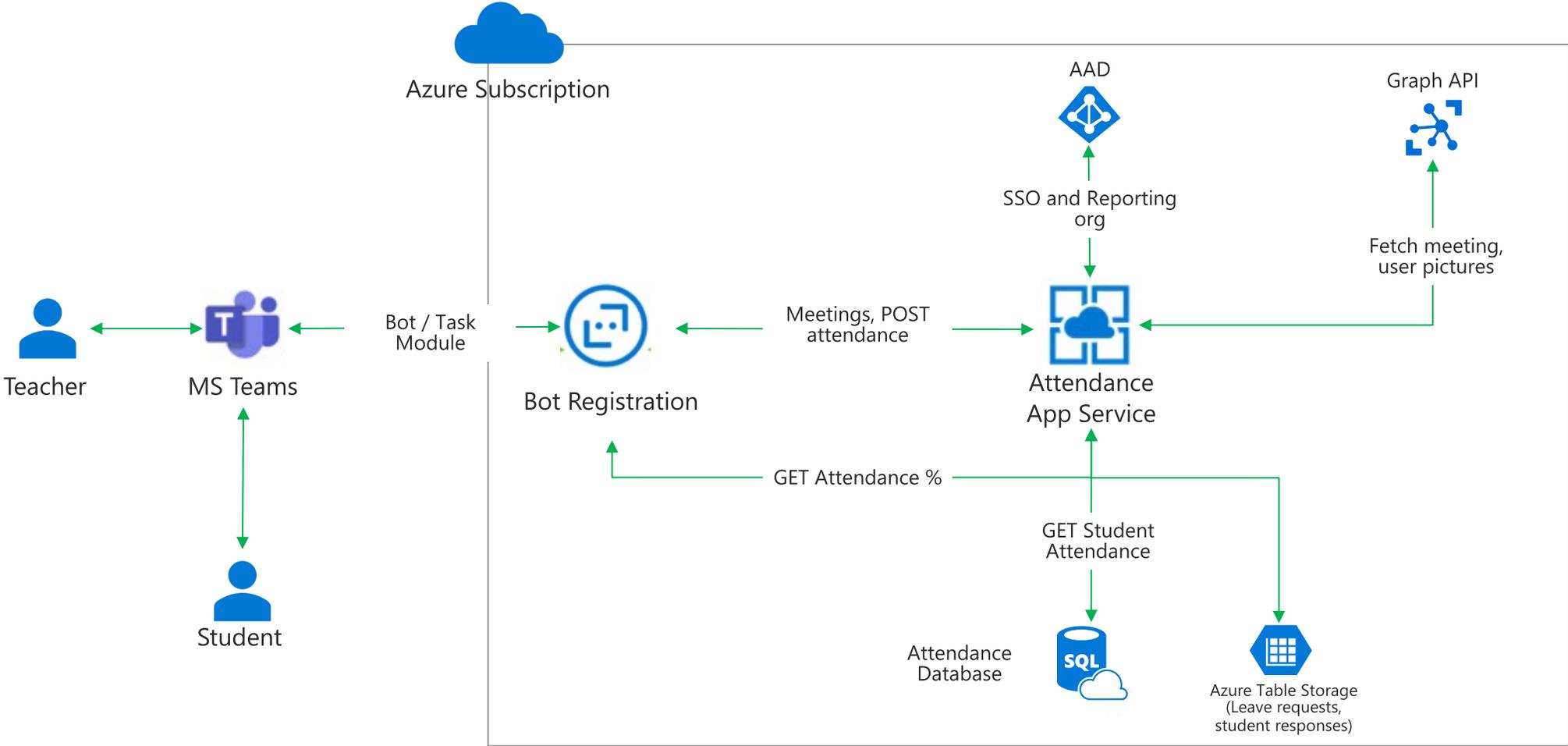
User Experience

- **[Card refreshes](#)** are used to update the card status instead of sending multiple different cards about the same request. This is especially useful in leave management flow. One leave request card gets constantly updated to show statuses under review and approved by the administrator. This ensures that readability is easier, and app does not spam with multiple cards for updates.
- **[List cards](#)** are used for providing a single consolidated view of a student or teacher's day along, show a list of classes that are clickable to view additional details about a particular class.
- **[Proactive Messages](#)** are used to send attendance code check-ins for students to fill in during a class.

Graph API

- The app utilizes [Get onlineMeeting](#) Graph API to retrieve list of users who are invited for a particular meeting. The attendance check-in proactive message is then sent to these participant students for each class

Solution Architecture



Education Book of Dreams

Academics Assistant



Scenario Vision

Student



Context

- Daniel, a student at Contoso university is juggling between his academic coursework, part time job, extra and co-curricular activities. He prefers a centralized hub to manage all his day-to-day activities, tasks and coursework in a structured manner.
- He uses Teams for interacting with his class mates and collaborate on coursework related deliverables. In addition, his online classes take place as Teams meetings

Current State

- Daniel's classes may undergo changes in schedule from time to time. This could include last minute changes in the venue of class if they are physical classes, or timing of a class due to events where some classes may get postponed.
- ⚠️ These ad hoc changes are typically communicated to Daniel and rest of his classmates via email. While this works at times, there have been cases that Daniel has missed this email and went unaware of changes in class schedule.
- ⚠️ During a class, Daniel takes notes documenting key concepts discussed in his notebook. He shares them with his classmates from time to time for them to scan / take photocopy of it
- ⚠️ While it works for small groups, there was no scalable way for everyone to work together.
- ⚠️ Administration's announcements at Contoso regarding admin activities, scholarship, fee deadlines, club enrolments are usually pinned on notice board
- ⚠️ Interactions between classmates, assignment deadline changes all happen through personal groups on various platforms.

Future State

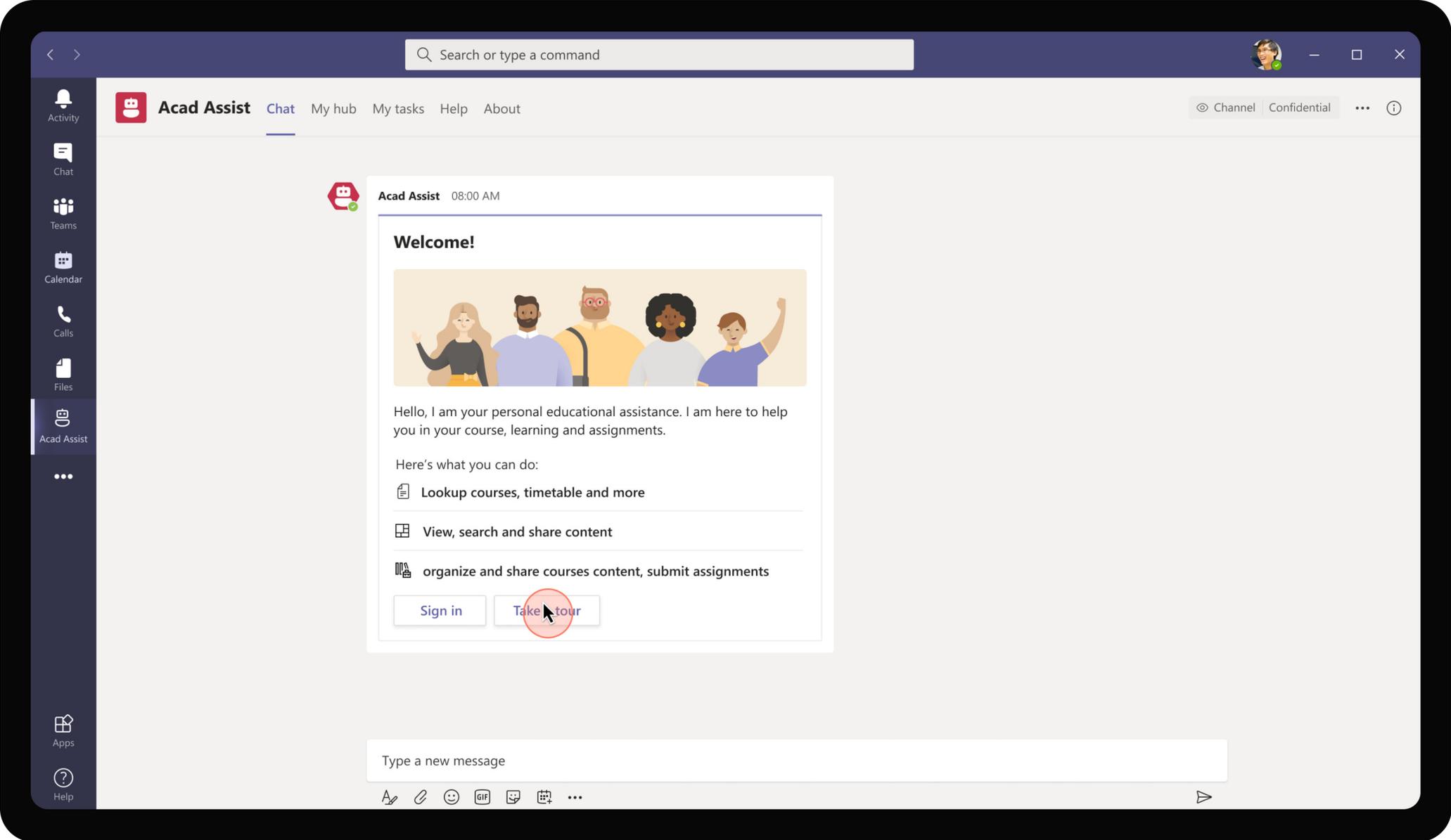
- ✓ Daniel signs onto his Teams app and is prompted to check out a central hub which shows the day's schedule for him along with upcoming deadlines, tasks
- ✓ Whenever there is an announcement from the professor or from school administration, the app alerts Daniel to check out the announcement right within the app
- ✓ Daniel is able to view change of schedule, upcoming classes. He also joins his online classes directly from the app notification
- ✓ During the class, Daniel is able to invoke from the app from Teams meeting and take notes and action items directly within the class
- ✓ After the class is complete, the app automatically collects Daniel's consent to share his notes in the common class notebook for all classmates to view and consume. Daniel also gets access to others notes as the app encourages good behavior through gamification
- ✓ Administration's announcements on leave policy changes, scholarship updates are broadcasted to different classes and available for each student to view within the app instantly
- ✓ Classmates all use Teams to interact with each other and share notes, course content with each other in one single platform



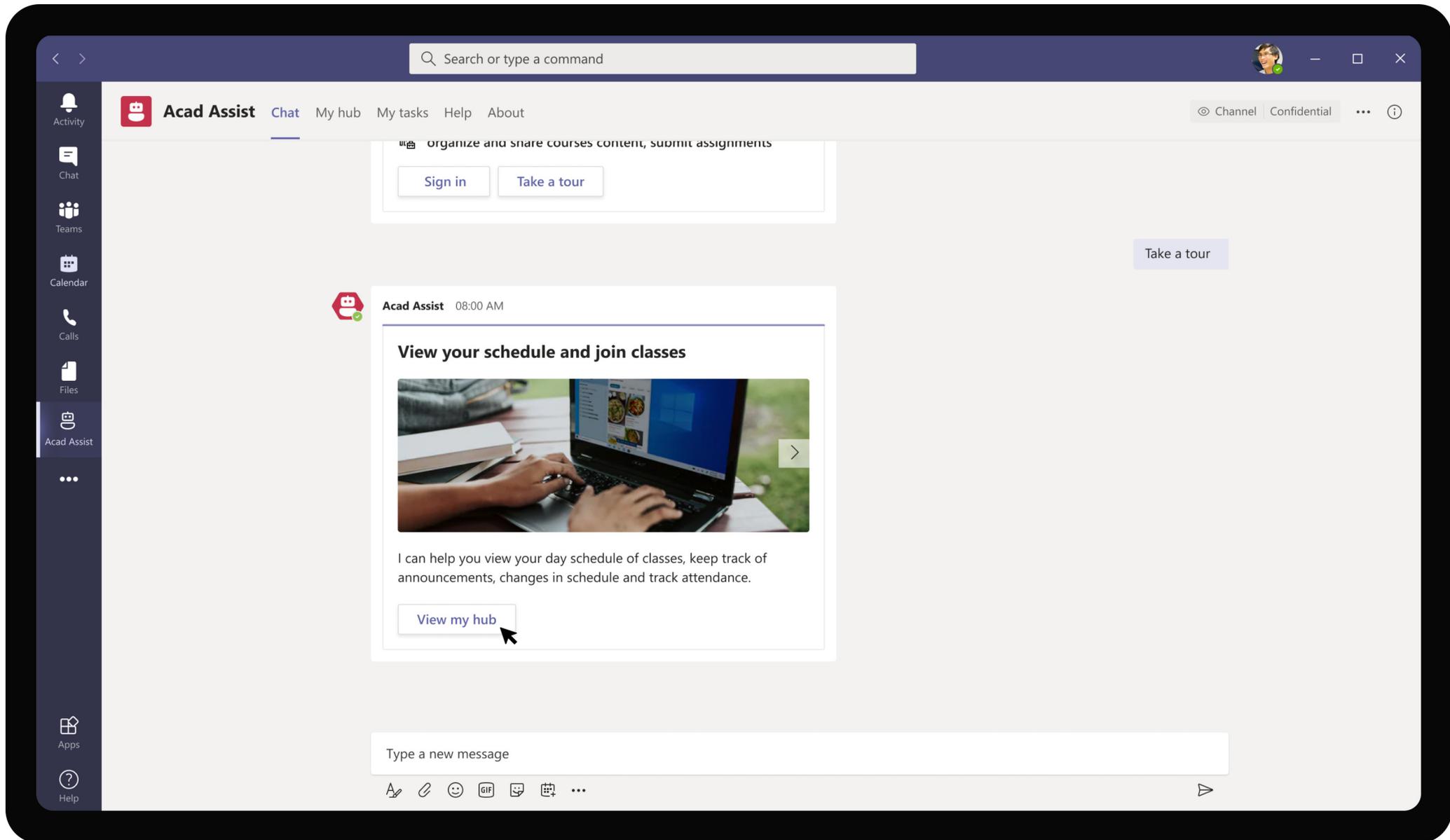
Daniel Tao, Student

Daniel is a student of Physics at Contoso University. He has a packed course workload, and he is active across multiple extra and co-curricular clubs in the university as well. His primary challenge is staying on top of information that comes from his professors, club members and school administration which are scattered across different mediums.

Sandra has to deliver her class as a Teams meeting and wants to easily handle tracking attendance without disrupting the class and wasting class time



The app sends a welcome message on installation introducing the various features. Daniel Tao uses the take tour button to view various features of the app.

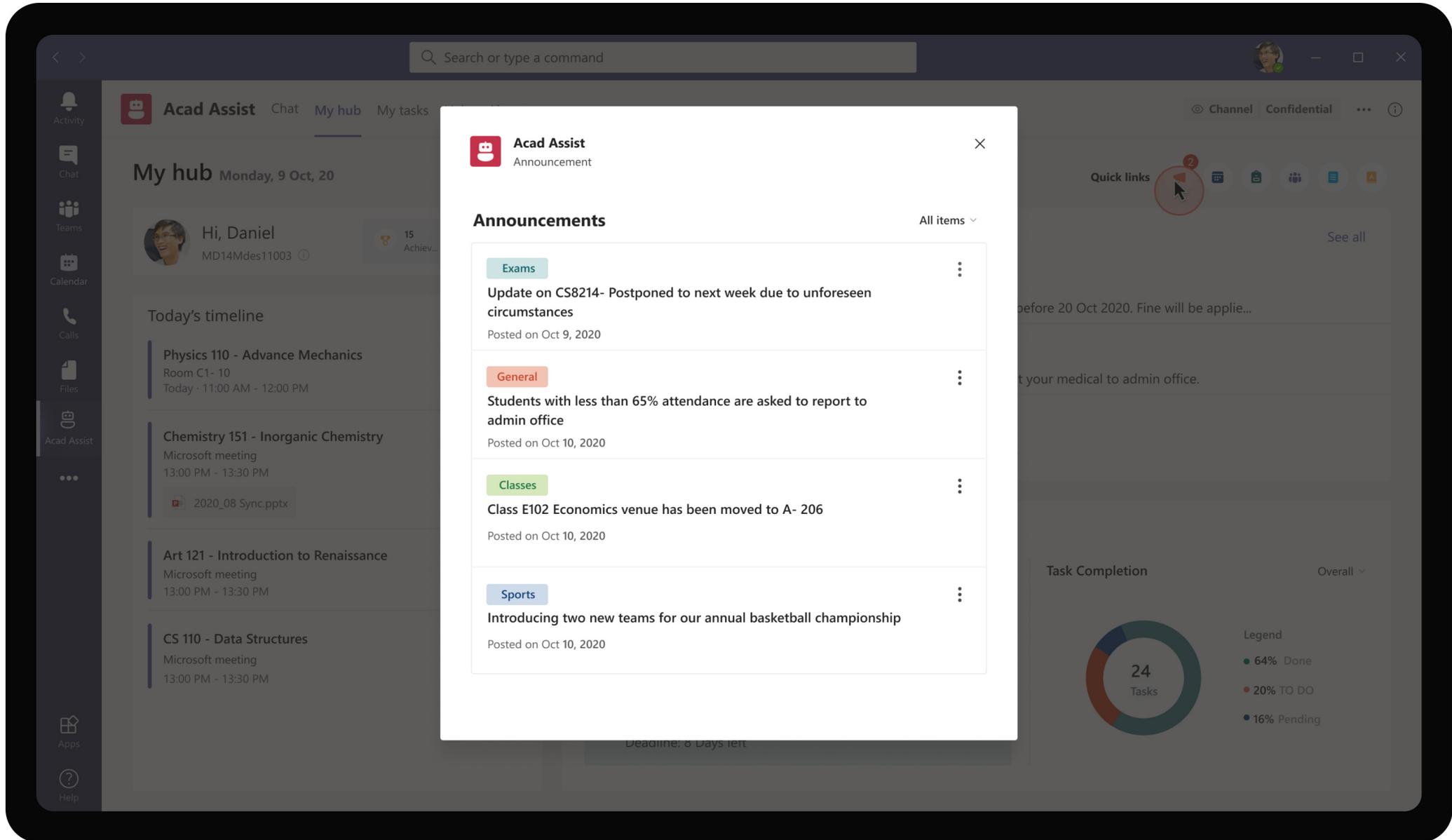


The app provides an introduction to the various capabilities that it offers clearly highlighting how Danie can make use of it for his day to day activities. It prompts Danie to explore the student hub. On clicking the button Danie is taken to view the My Hub tab of the app.

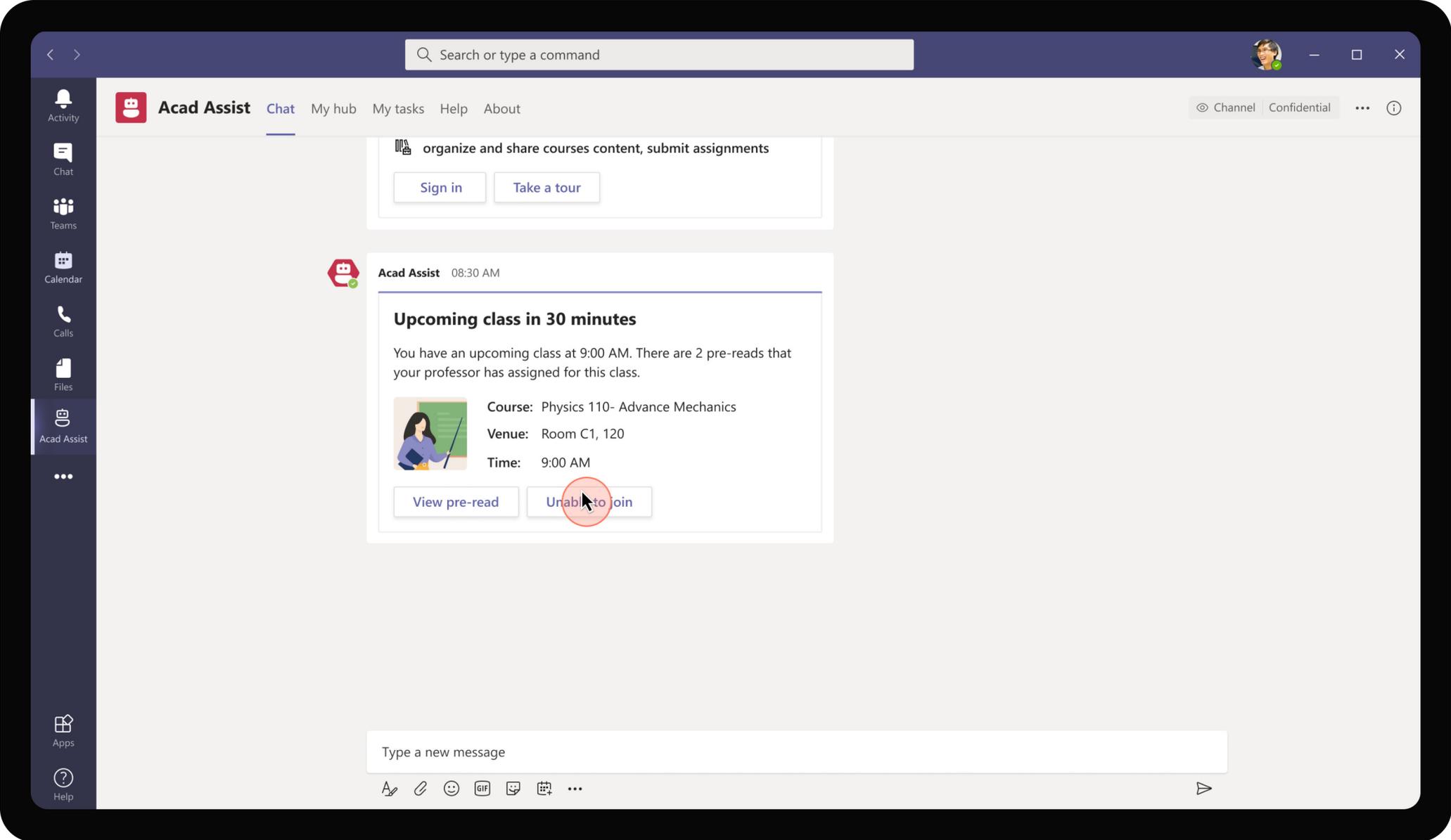
The screenshot displays the Microsoft Teams 'My hub' interface for a user named Daniel. The interface is organized into several sections:

- Navigation Sidebar:** Located on the left, it contains icons for Activity, Chat, Teams, Calendar, Calls, Files, Acad Assist, and Help.
- Header:** At the top, there is a search bar with the text 'Search or type a command'. To the right, there are window control icons (minimize, maximize, close) and a user profile picture.
- Channel Header:** Below the search bar, the channel name 'Acad Assist' is displayed, along with tabs for 'Chat', 'My hub', 'My tasks', 'Help', and 'About'. On the right, there are icons for 'Channel', 'Confidential', and a settings/info icon.
- My hub Greeting:** A section titled 'My hub' with the date 'Monday, 9 Oct, 20'. It features a profile picture of Daniel and the text 'Hi, Daniel' with the user ID 'MD14Mdes11003'. There are also two small achievement/teams icons: '15 Achiev...' and '2 Teams'.
- Today's timeline:** A vertical list of events for the day, each with a 'Join' button:
 - Physics 110 - Advance Mechanics:** Room C1- 10, Today · 11:00 AM - 12:00 PM, 5 min.
 - Chemistry 151 - Inorganic Chemistry:** Microsoft meeting, 13:00 PM - 13:30 PM. Includes a file icon for '2020_08 Sync.pptx'.
 - Art 121 - Introduction to Renaissance:** Microsoft meeting, 13:00 PM - 13:30 PM.
 - CS 110 - Data Structures:** Microsoft meeting, 13:00 PM - 13:30 PM.
- Notice board:** A section titled 'Notice board' with a 'See all' link. It contains three announcements:
 - Department dues owed:** You have not paid your department dues for this session. Please pay before 20 Oct 2020. Fine will be applie...
 - Low attendance:** You have low attendance below required 75% in CS180. Please submit your medical to admin office.
 - Residence fee dues in 20 days:** Residence fees for accomodation due soon. Pay to avoid late fee fine.
- Task list:** A section titled 'Task list' with a 'See all' link. It shows 'Pending assignments/ Submission (5)'. Two tasks are visible:
 - Practical application of vectors and projectiles:** Due today @ 6:00 PM, with a 'Start' button.
 - Critical analysis of Modern art:** Deadline: 8 Days left, with a 'View' button.
- Task Completion:** A section titled 'Task Completion' with an 'Overall' dropdown. It features a donut chart showing '24 Tasks' and a legend:
 - 64% Done (green)
 - 20% TO DO (orange)
 - 16% Pending (blue)

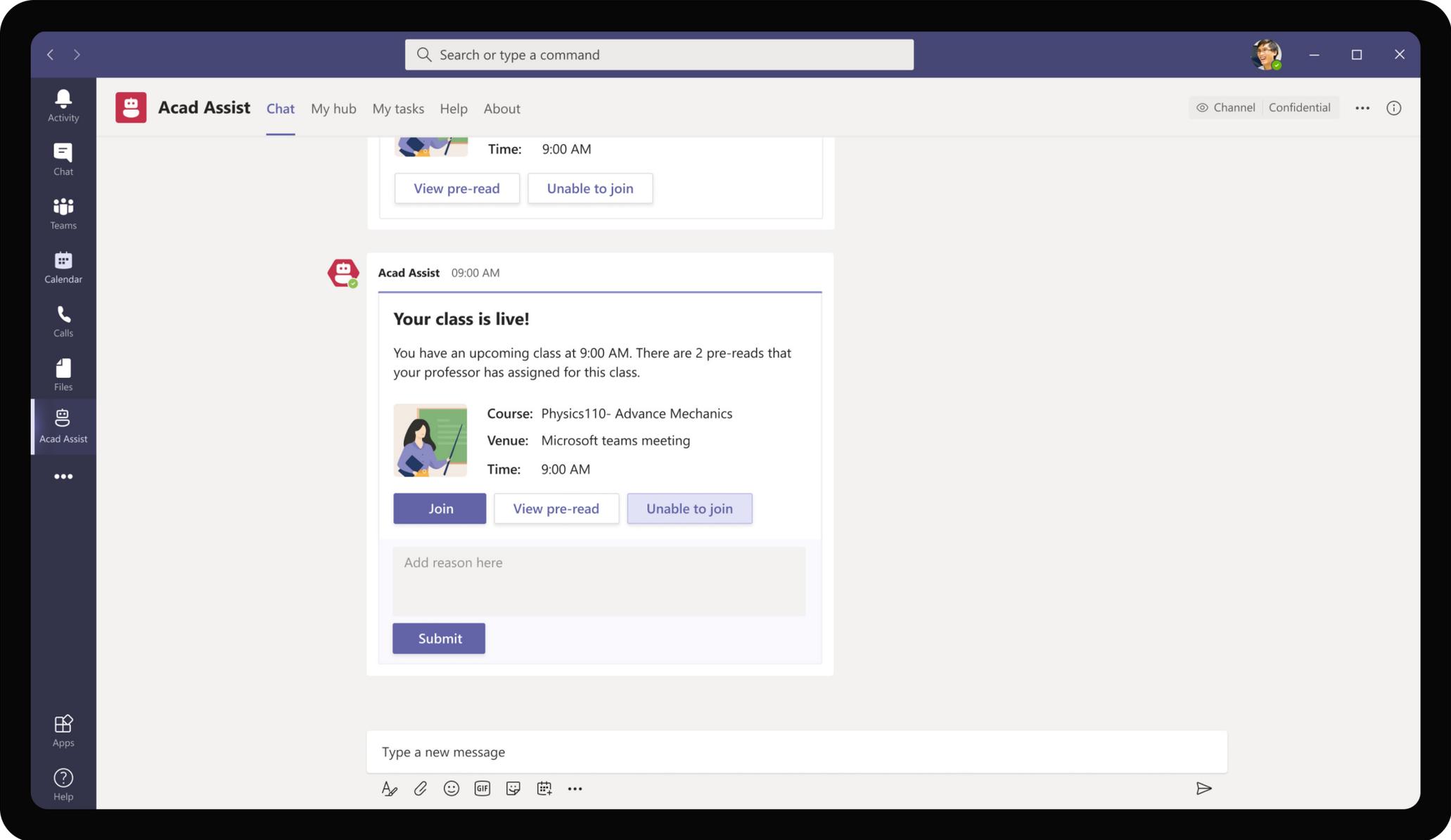
Daniel starts his day looking at this personalized hub. It shows among other things Daniel's classes for the day. The hub also acts as a virtual notice board for Daniel to view announcements that come from his classes at university. It also provides a central place for him to keep track of his tasks and assignments.



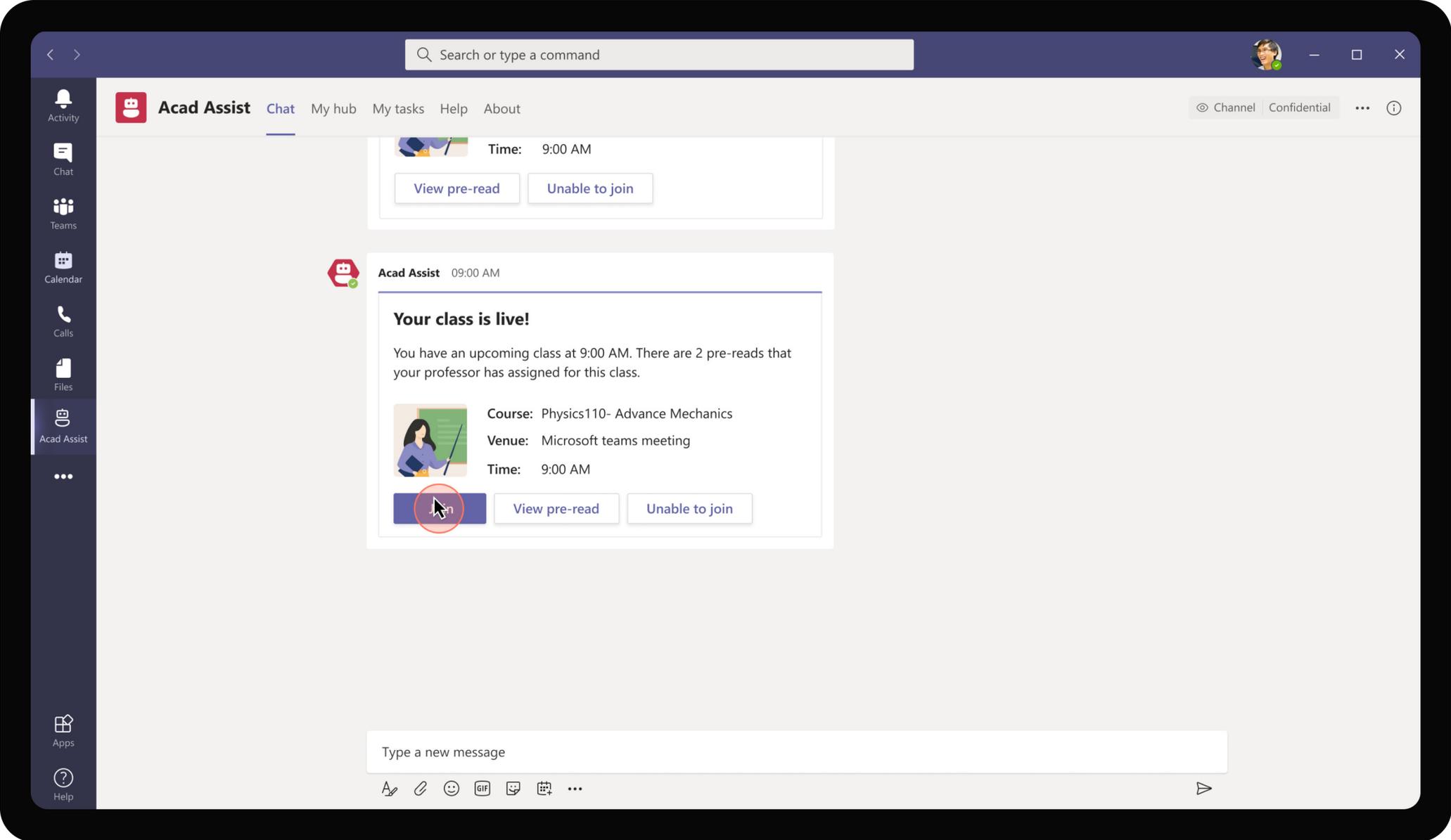
Clicking on the announcements icon opens a task module with a filterable list of announcements from different classes made by his professors, school administrators. Daniel can view all important announcements for the day and plan his day accordingly.



The app sends reminders to Danie of upcoming classes. It also provides link to pre-read materials that a student must read up before attending the class for quick reference.

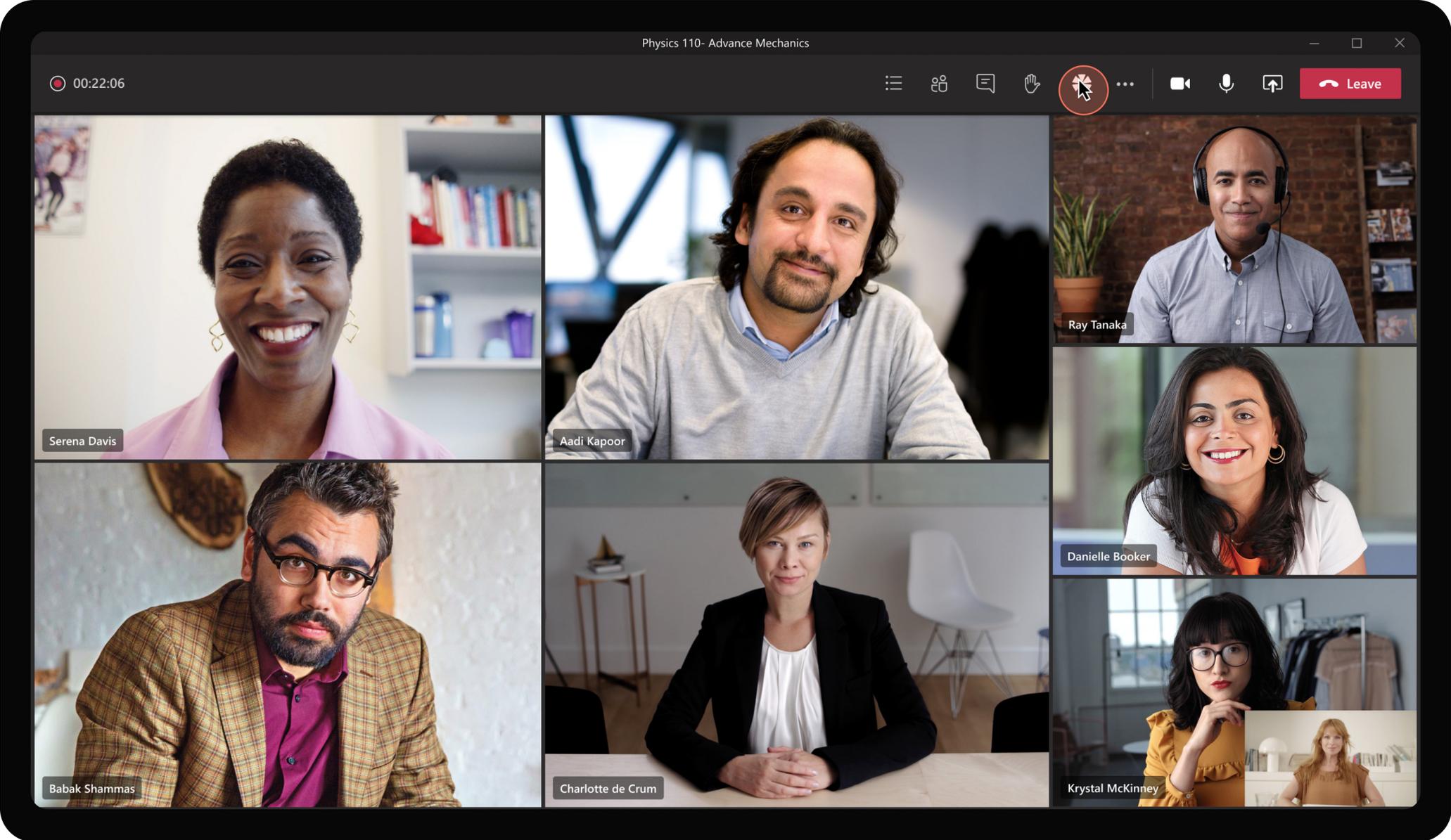


If a student is unable to join for some reason, he can use the bot message to mark himself as absent for the class, notifying the professor promptly.

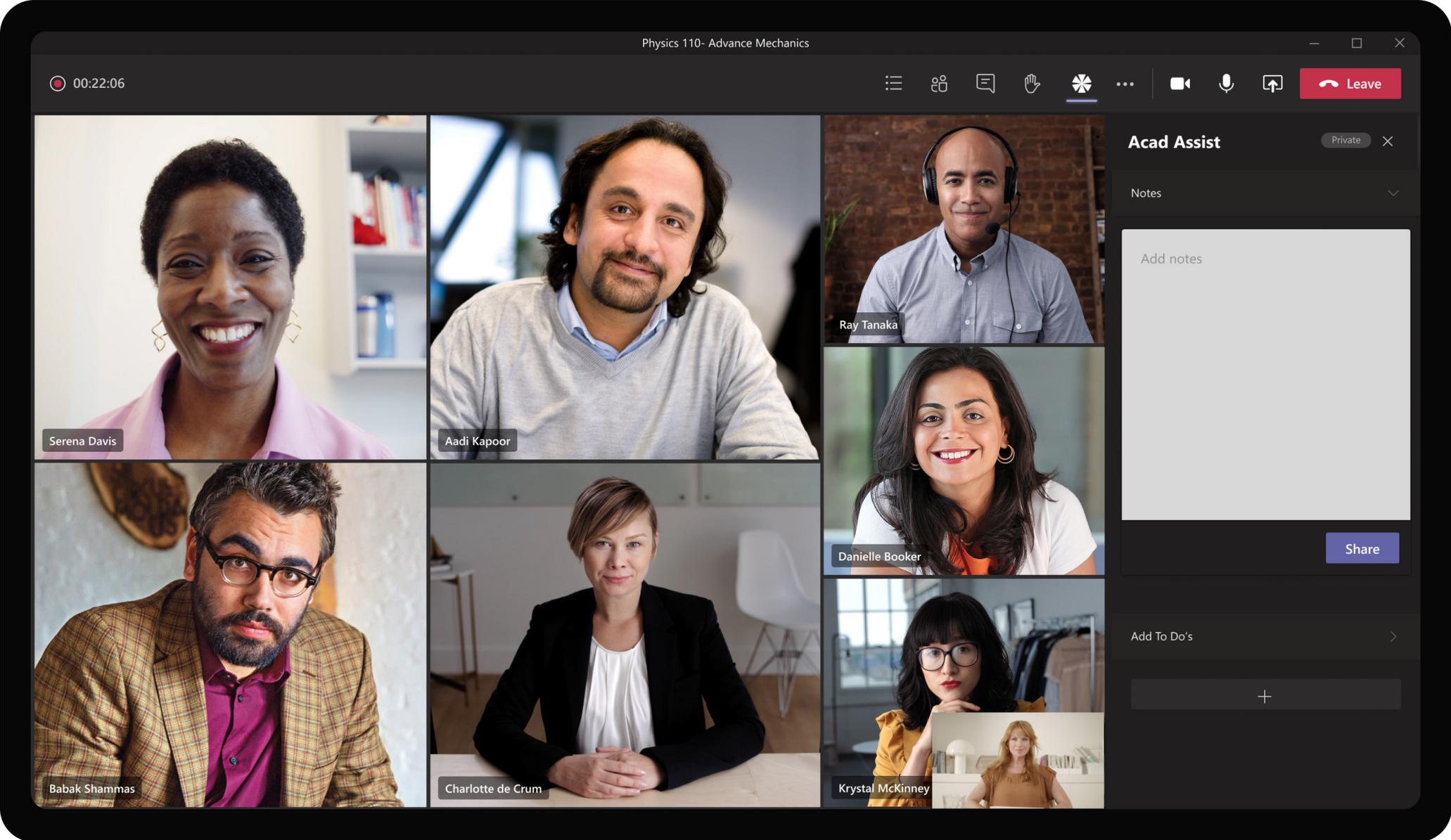


As the class becomes live (at scheduled start time) the app prompts Danie to join the Teams meeting. Danie can join the meeting directly from the bot message.

Daniel Tao joins a virtual class along with his class mates. He takes frequent notes from the lecture and makes pointers to himself to revise on key concepts in the class.



As students join the class they see other classmates and professors on the video call with professor delivering the lecture.



App also provides additional surfaces on the meeting side panel for students to take notes during the class. Danielle can take notes in the notes section on the side panel without having to switch to another screen.

Physics 110- Advance Mechanics

00:22:06

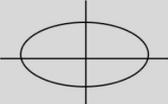
Leave

Acad Assist

Private

Notes

- $V = U + at$
- Elliptical motion is harder to analyse than uniform circular



- **Kepler's second law:**
Consequence of Kepler's second law is that objects in elliptical orbits travel faster when they are closer to central body

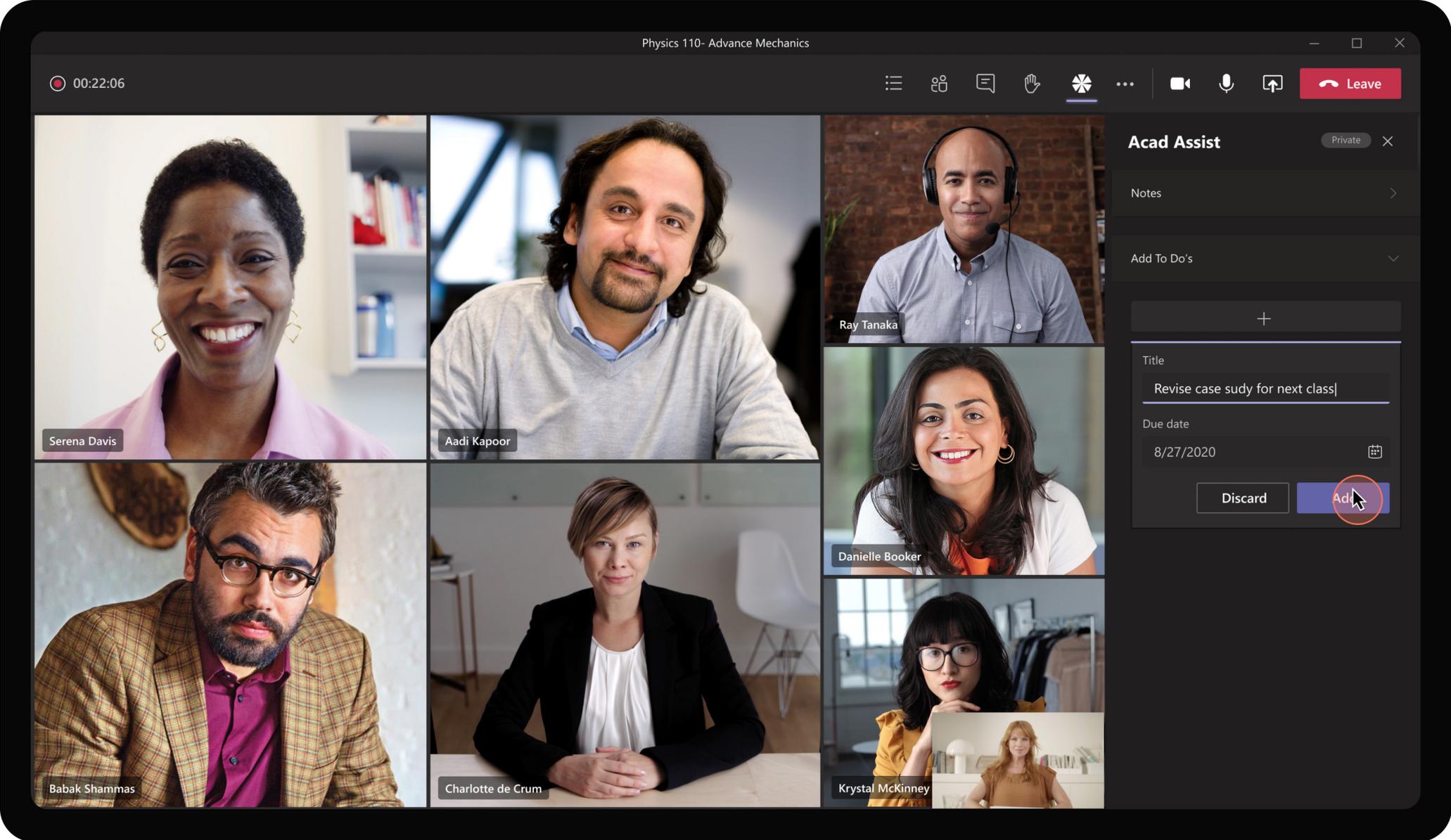
Share

Add To Do's

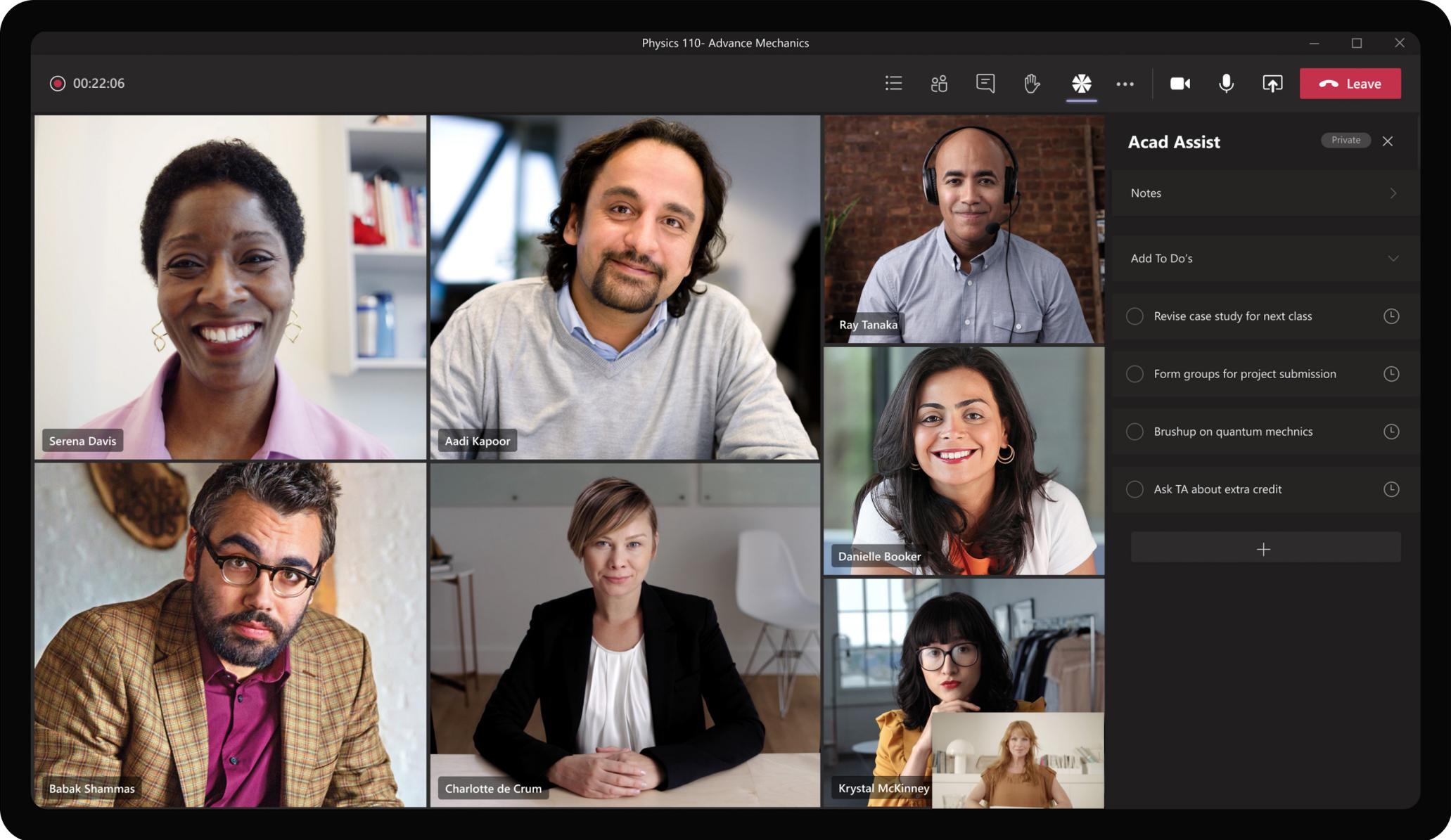


Participants: Serena Davis, Aadi Kapoor, Ray Tanaka, Danielle Booker, Babak Shammass, Charlotte de Crum, Krystal McKinney

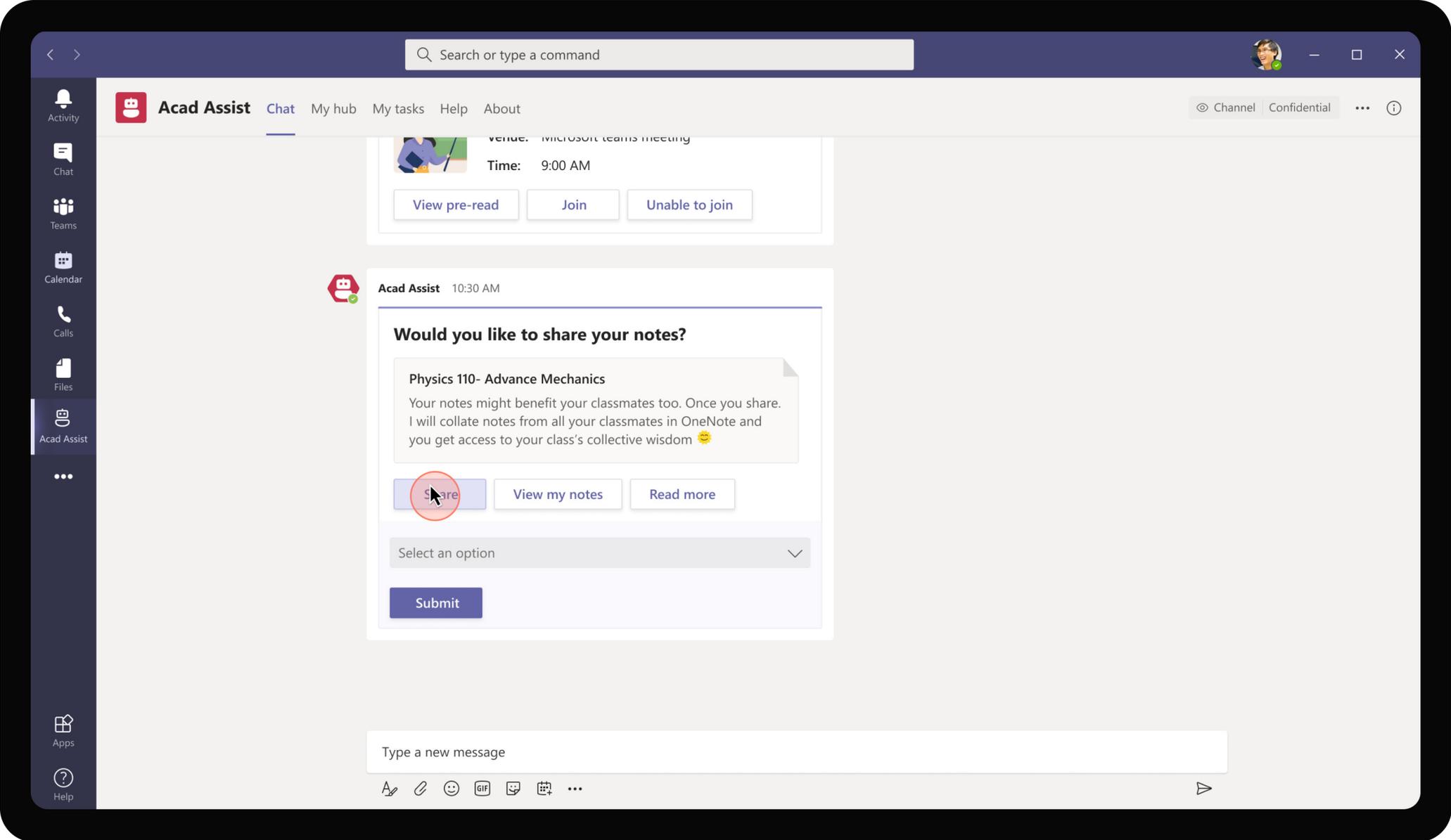
As the professor shares content on the screen uses diagrams to deliver lecture the notes section can be used to copy the concepts presented and take notes with a mixture of picture and text.



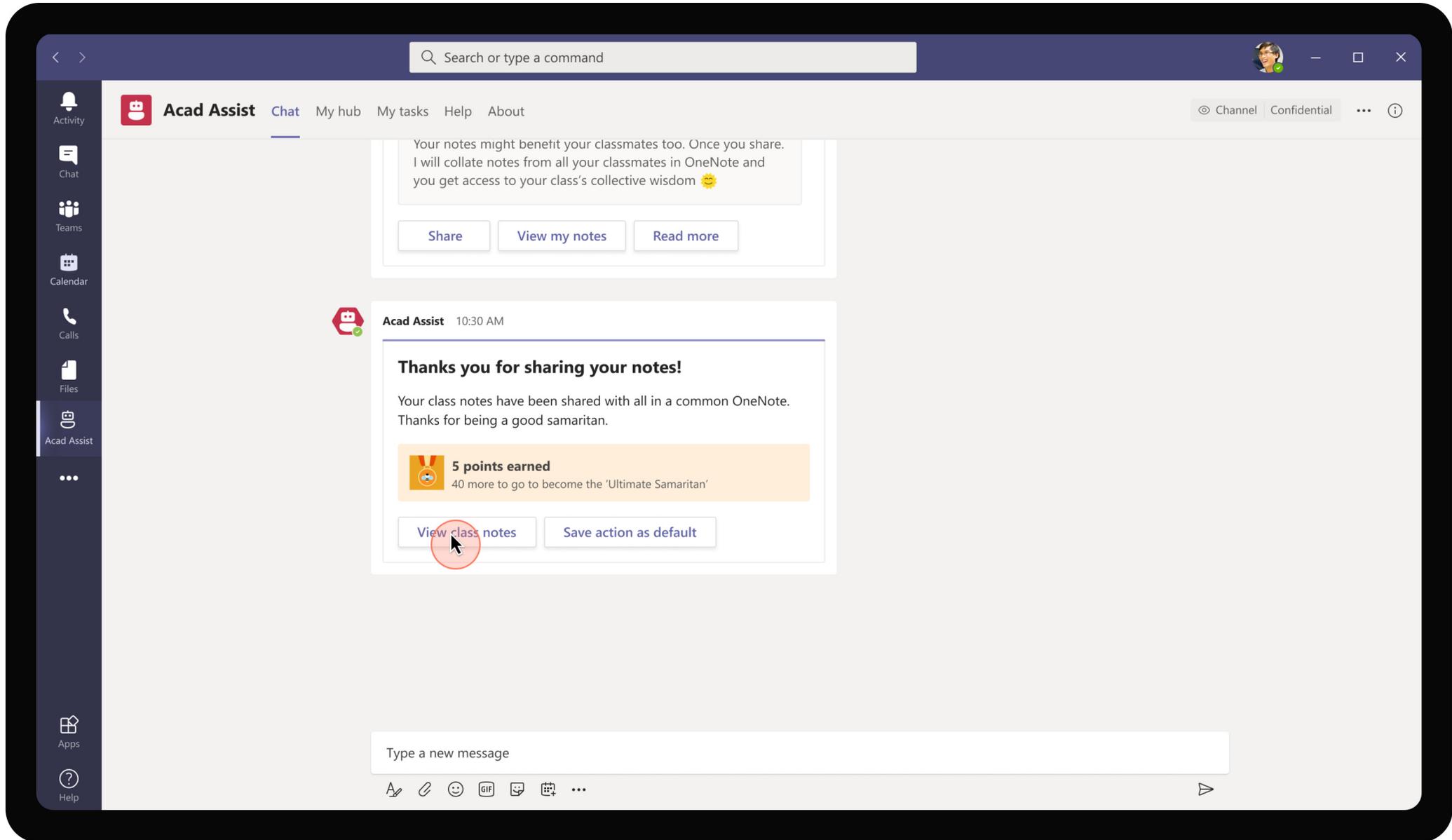
As the professor highlights certain follow-up items, provides mini activities for the class, students can make a To Do list on the app using the side panel. Danielle uses the To Do list to make reminders for a case study read up for next week.



To Do lists created in the app utilize Tasks in background and are automatically synced to Planner and To Do lists in Windows. Daniel will be able to track and mark them complete across any of these surfaces.

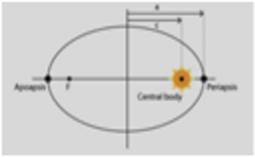


Notes captured by Danie are auto saved in persona OneNote. After the lecture is complete the app prompts Danie to share his notes with his entire class and in return get everyone's notes in a single place for the lecture.



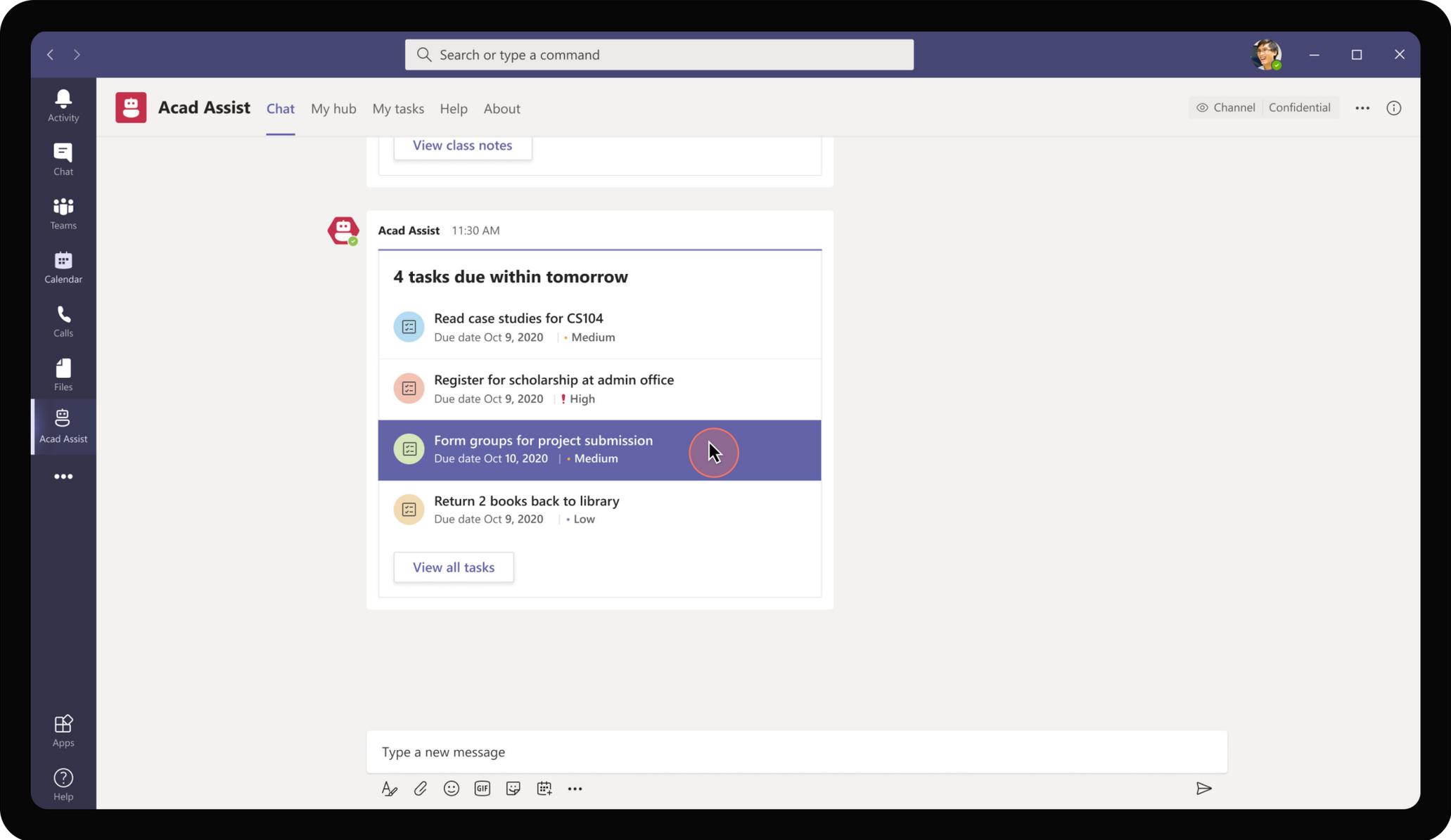
The app also gamifies such positive or favourable actions taken by students accumulating points and unlocking badges in the process. This encourages students to collaborate with the class, share notes, clarify questions from classmates and learn as a team.

The screenshot displays a Microsoft Teams interface. On the left is a navigation sidebar with icons for Activity, Chat, Teams, Calendar, Calls, Files, Acad Assist, and Help. The main area is split into three panes:

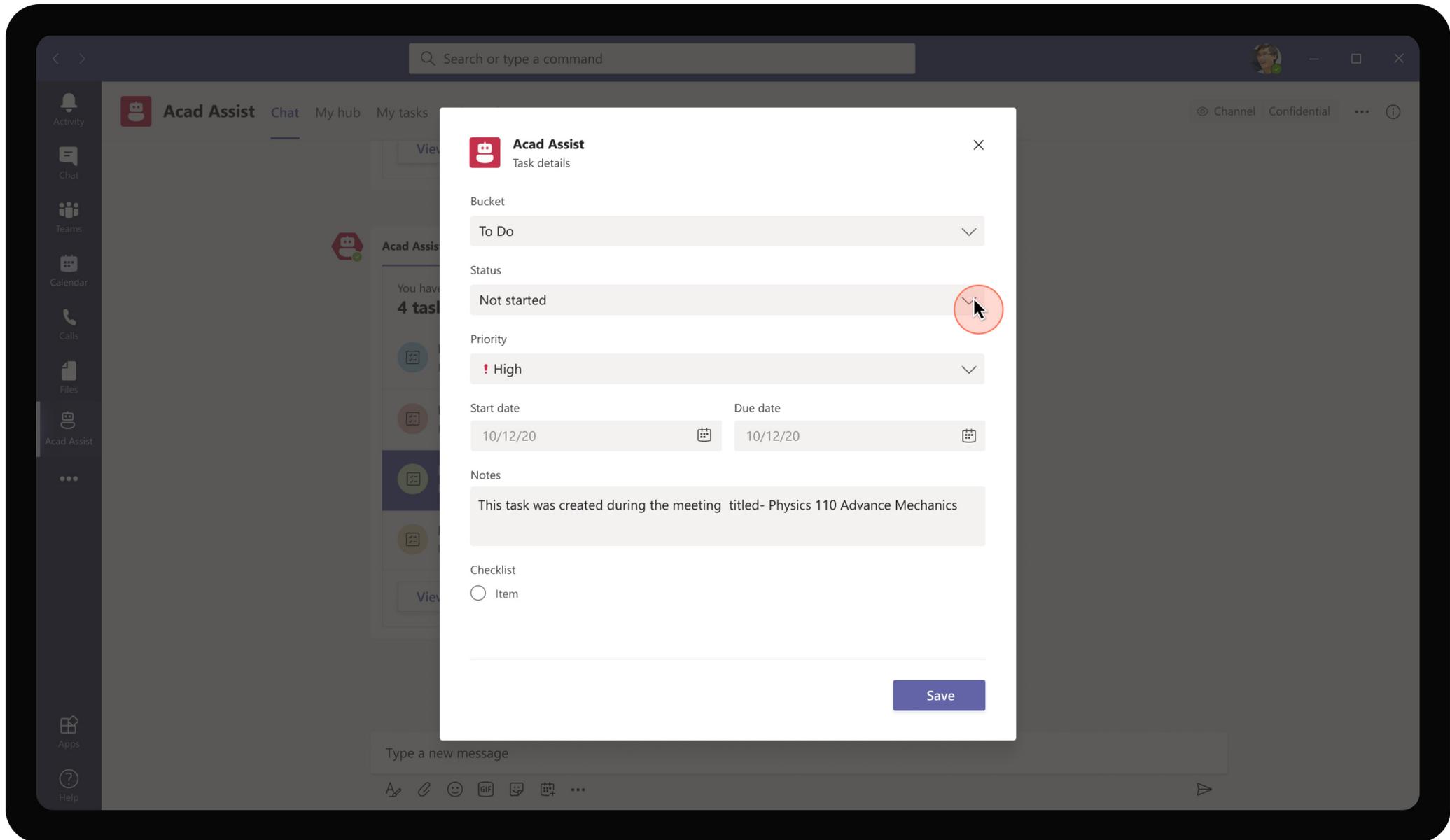
- Left Pane (Teams):** Shows a list of teams. The selected team is 'Physics 110- Advance mechanics'. Underneath, there is a 'General' channel with several pinned items: 'Chapter 1- Kinematics', 'Chapter 2- Laws of Motion', 'Chapter 3- Work, Energy and Power', and 'Chapter 4- Rotational Motion'. There are also '32 hidden channels' and a 'Notice board'.
- Middle Pane (Acad Assist):** Shows a rich text editor for a document titled 'Physics 110 - Advanced Mechanics'. A table of contents is visible on the left side of this pane:
 - Kinematics
 - Laws of Motion
 - Work, Energy and Power
 - Rotational Motion
- Right Pane (Note Content):** Displays the content of a note titled 'Advanced Mechanics- 12/24' dated 'October 9, 2020 20:47'.
 - Notes from Babak Shammass:**
 - $V = u + at$
 - Elliptical motion is harder to analyse than uniform circular motion
 - 
 - Kepler's second law:** Consequence of Kepler's second law is that objects in elliptical orbits travel faster when they are closer to central body
 - Notes from Ray Tanaka:**
 - Centrifugal force is the fictitious force which acts on a body, rotating with uniform velocity in a circle, along the radius away from the center. Magnitude of centrifugal force is,
 - $F = mv^2/r$
 - Centripetal and centrifugal forces are equal in magnitude and opposite in direction. They cannot be termed as action and reaction since action and reaction never act on same body.
 - A rigid body consists of a number of particles confined to a fixed geometrical shape and size in such a way that the distance between any pair of particles always remains constant.

The shared note is aggregated under a page specifically created for the lecture. Notes from all classmates get saved in a central place and pinned to the General channel of course Team. This ensures high visibility and easy access for all classmates

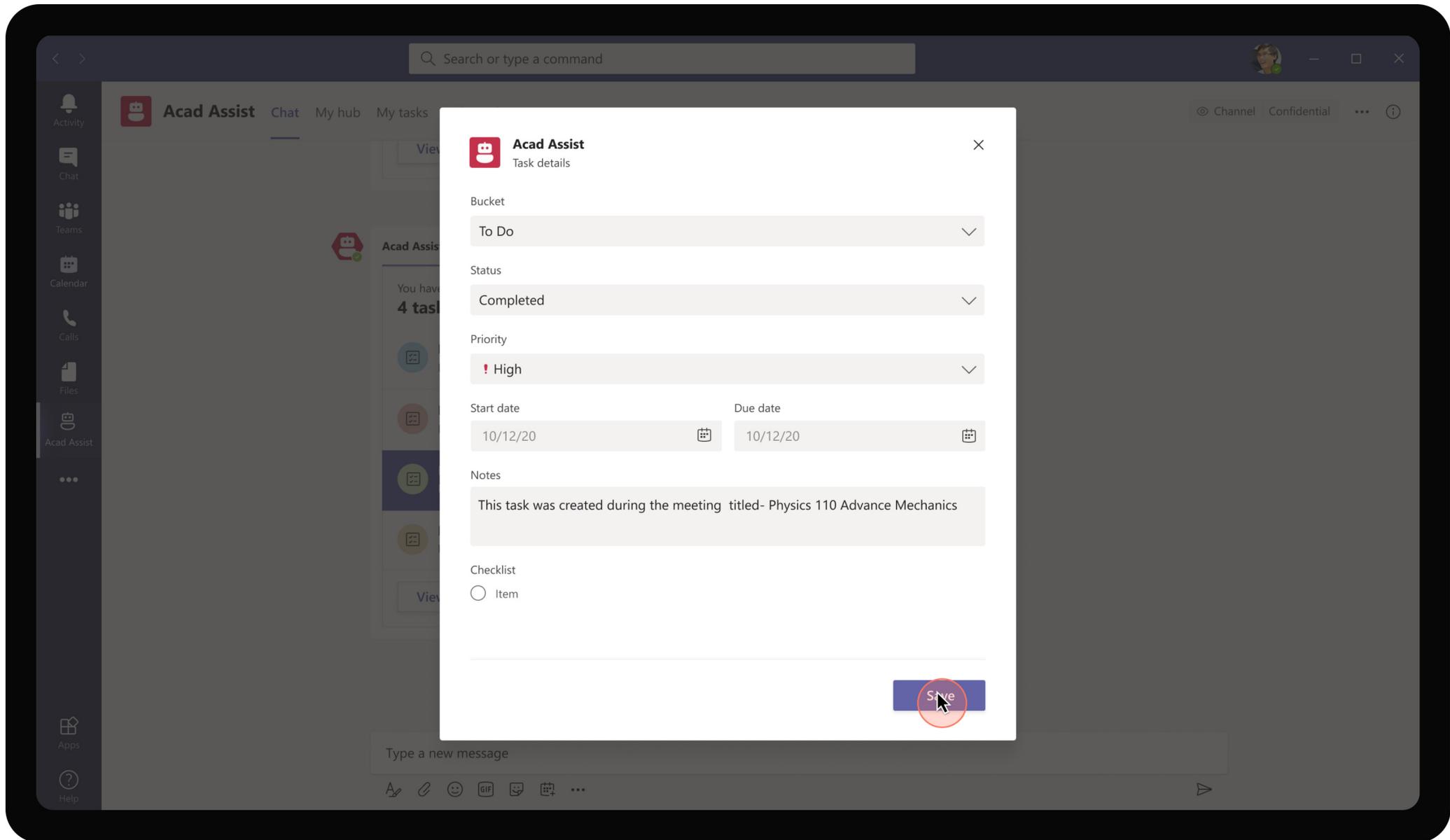
The action items captured by Daniel during class are surfaced by the app as reminders to complete as they near due date



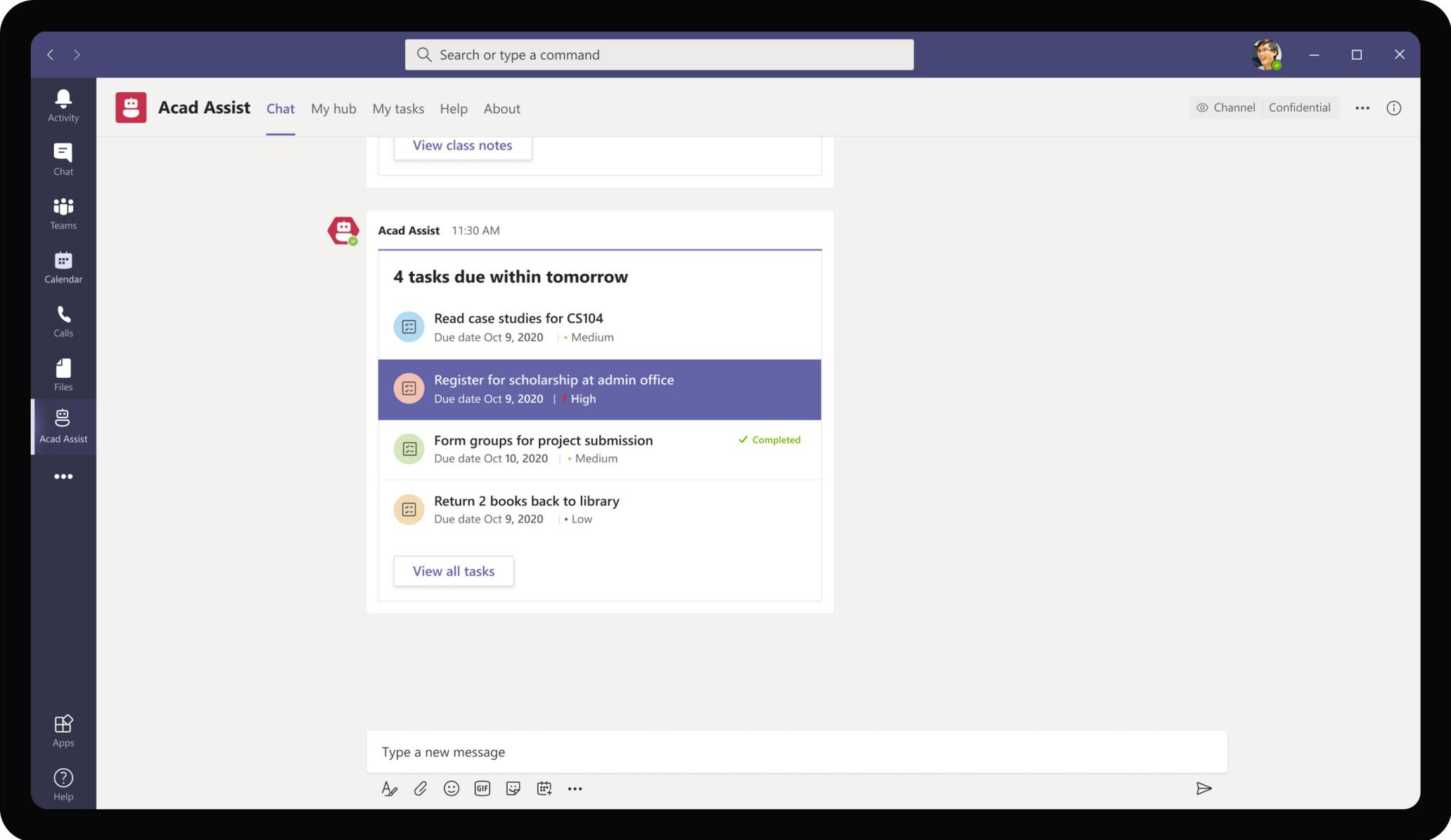
Danie's action items across various classes are proactively surfaced by the bot close to due date. Danie's able to see all action items at a glance and take actions on them



Clicking on a specific task opens a task module with provision to update status edit information as required.



The notes are automatically generated to provide Danie additional context on the source of task creation. Danie marks the task as completed and saves using the task module.



The card with list of tasks updates to show the respective task as completed allowing Danie to focus on other items in the list.

Solution Highlights – Best Practices

Key Solution Design Considerations

Platform Extension Points

- **[Personal Scoped App](#)** The app is a personal scoped app because the experience, classes, tasks need to be customized for each student. Each student will have their own experience of student hub
- **[Personal scoped Tab](#)** is ideal for showcasing the largely visual hub for the students. Especially since students will be using mobile to interact with the app on the go, it is required that app is highly visual and less conversational
- The bot in personal scope is mostly utilized from the perspective of alerting and reminding the students on upcoming deadlines, status changes, announcements allowing the student to take action on those.
- **[Meetings extensibility](#)** comes into play here as an [in-meeting tab](#) where students can take notes during a class and take action items, to do lists from the class. These are usually done in a paper-based manner and can be automated to certain extent

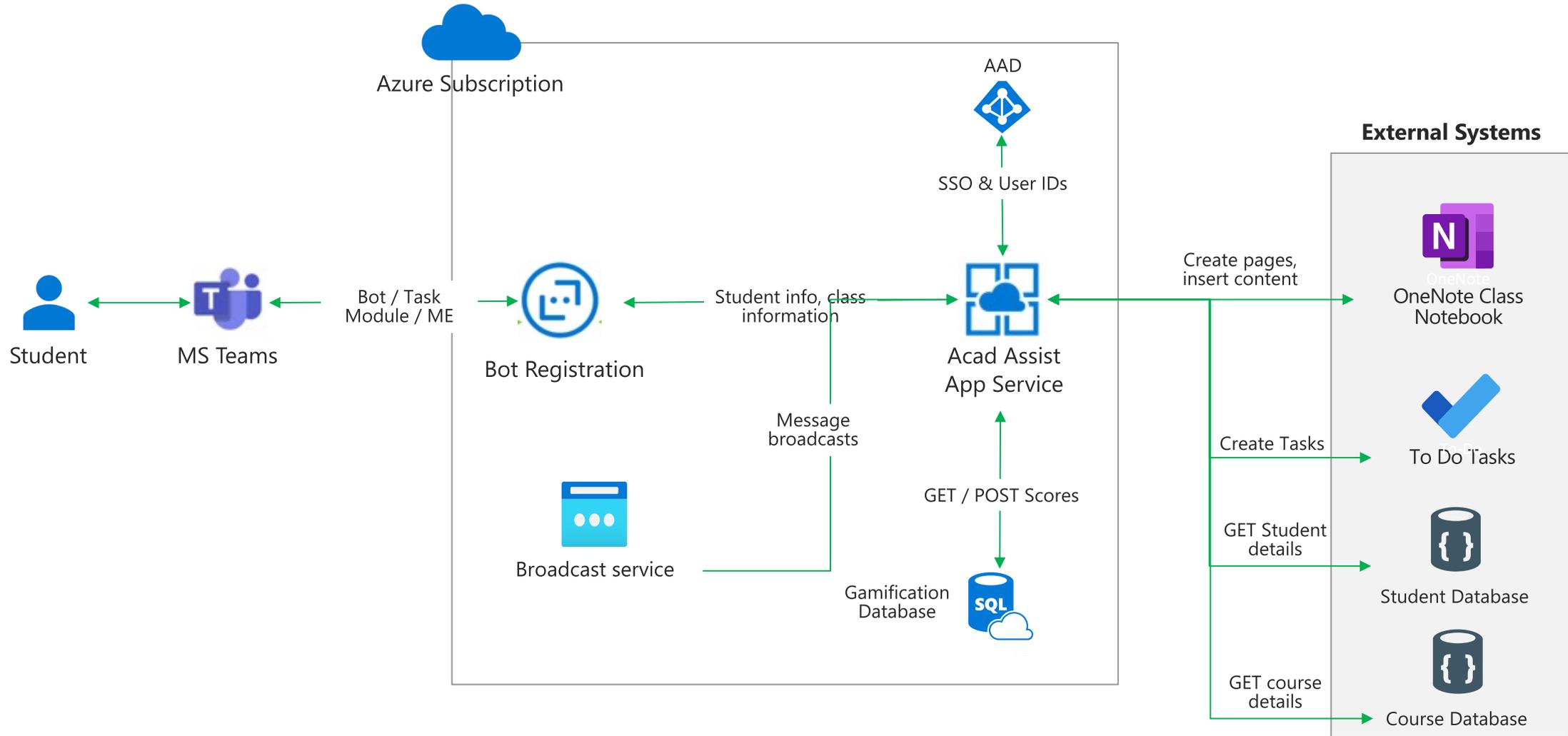
User Experience

- **[Card refreshes](#)** are used to update the card status instead of sending multiple different cards about the same request. This ensures that readability is easier, and app does not spam with multiple cards for updates.
- **[List cards](#)** are used for providing reminders about upcoming tasks, assignment deadlines. With list cards, it is easy to know the pending tasks in a glance with option to delve deep into each of them
- **[Proactive Messages](#)** are sent at intervals based on announcements, reminders and alerts to each student. Students should ideally get an experience to configure their preferences around these scheduled alerts.

Graph API

- The app utilizes [OneNote Graph APIs](#) to retrieve class notebook, create pages and sections and insert notes created by each student during the meetings.
- [To do tasks](#) APIs are used to create tasks in the To Do list for the signed in user.
- [Assignments Graph API](#) are used to list the assignments sorted by due date.

Solution Architecture



Education Book of Dreams

Event Finder



Scenario Vision

Student



Context

- Daniela is a student at Contoso university looking to share her knowledge and passion in the field of data science with her fellow batch mates. She is also intent on starting a thriving community of data science enthusiasts in the university
- She wants to conduct a beginner level workshop on data science to understand the interest level and proceed to form a community from the interested students attending the workshop

Current State

- ⚠ Daniela updates information about the event in a mail or Power Point deck. She forwards it to all students in the university or to mailers. She also does a post on campus notice board.
- ⚠ Students receive multiple e-mails on various open events irrespective of their preferences. They read through all of them and shortlist the ones they are interested in.
- ⚠ Interested students reach out to Daniela or sign up on Daniela's form
- ⚠ Daniela receives all event registrations over e-mail or as a form response.
- ⚠ For all the registered participants, Daniela sends the pre-read materials and other setup instructions as attachments over email blast.
- ⚠ Students with questions on the pre-read or setup instructions, reach out to Daniela over email again. Multiple students might have same question and Daniela spends time explaining the same answer with multiple attendees
- ⚠ After the event is closed for registrations, Daniela has to manually remove her notice board posting or send an email blast announcing registration closure

Future State

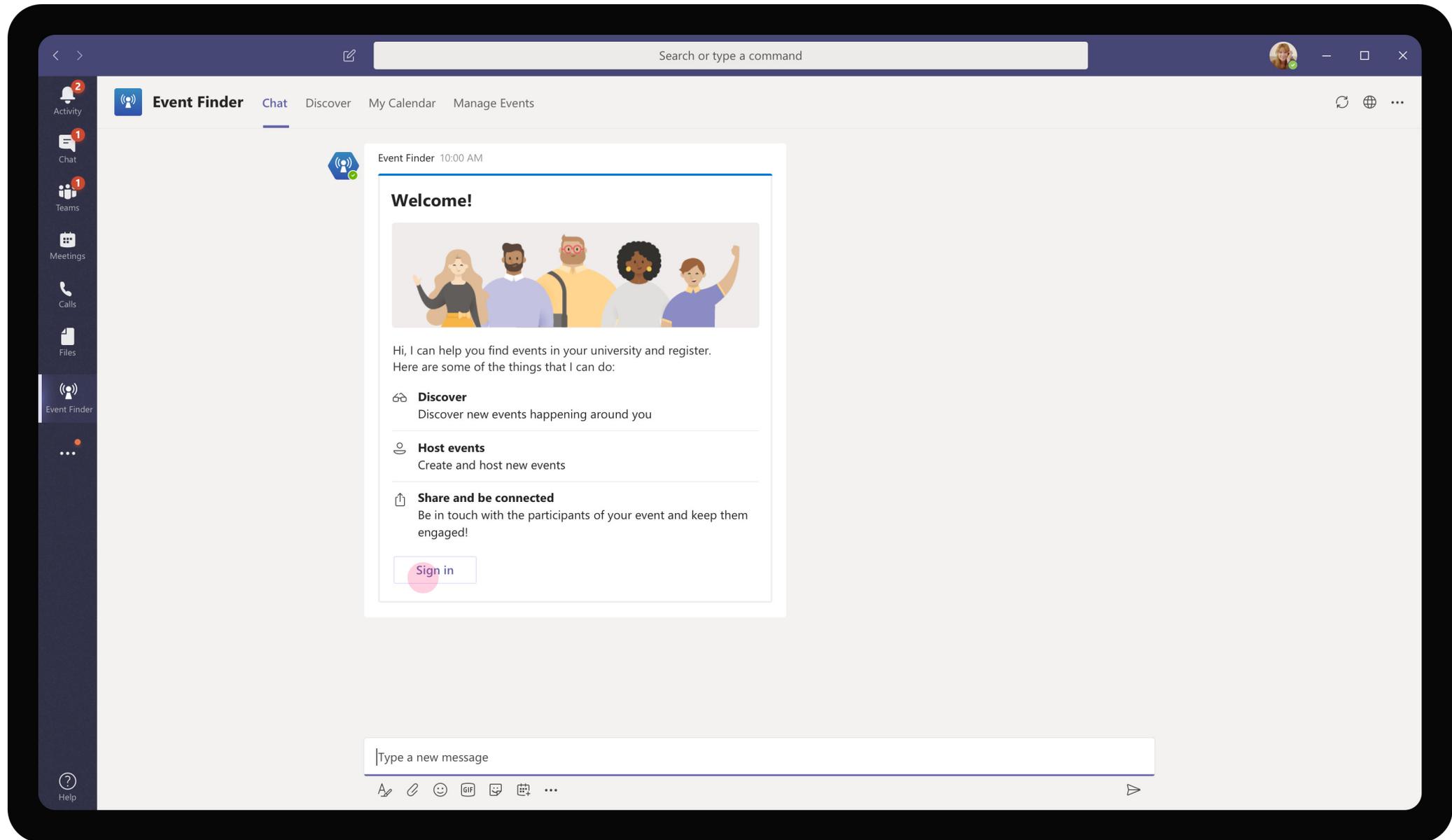
- ✓ Daniela uses Teams app to create a new event entity and provides details about her event, timelines, and content that will be covered.
- ✓ As Daniela publishes the event entity, it is available for everyone in the university to view and apply. Daniela may also choose the event to be visible for students of certain classes / teams.
- ✓ Students can then filter events based on their skills and preferences and apply for events that interests them
- ✓ As students apply for Daniela's events, she can keep track of registrations and close registrations if required directly from the app
- ✓ As students register for the event, they get added to a Team automatically for further collaboration, communication from Daniela in a scale manner
- ✓ Students who register for the event also get to meet other students who have similar interests and passion. The app builds healthy communities



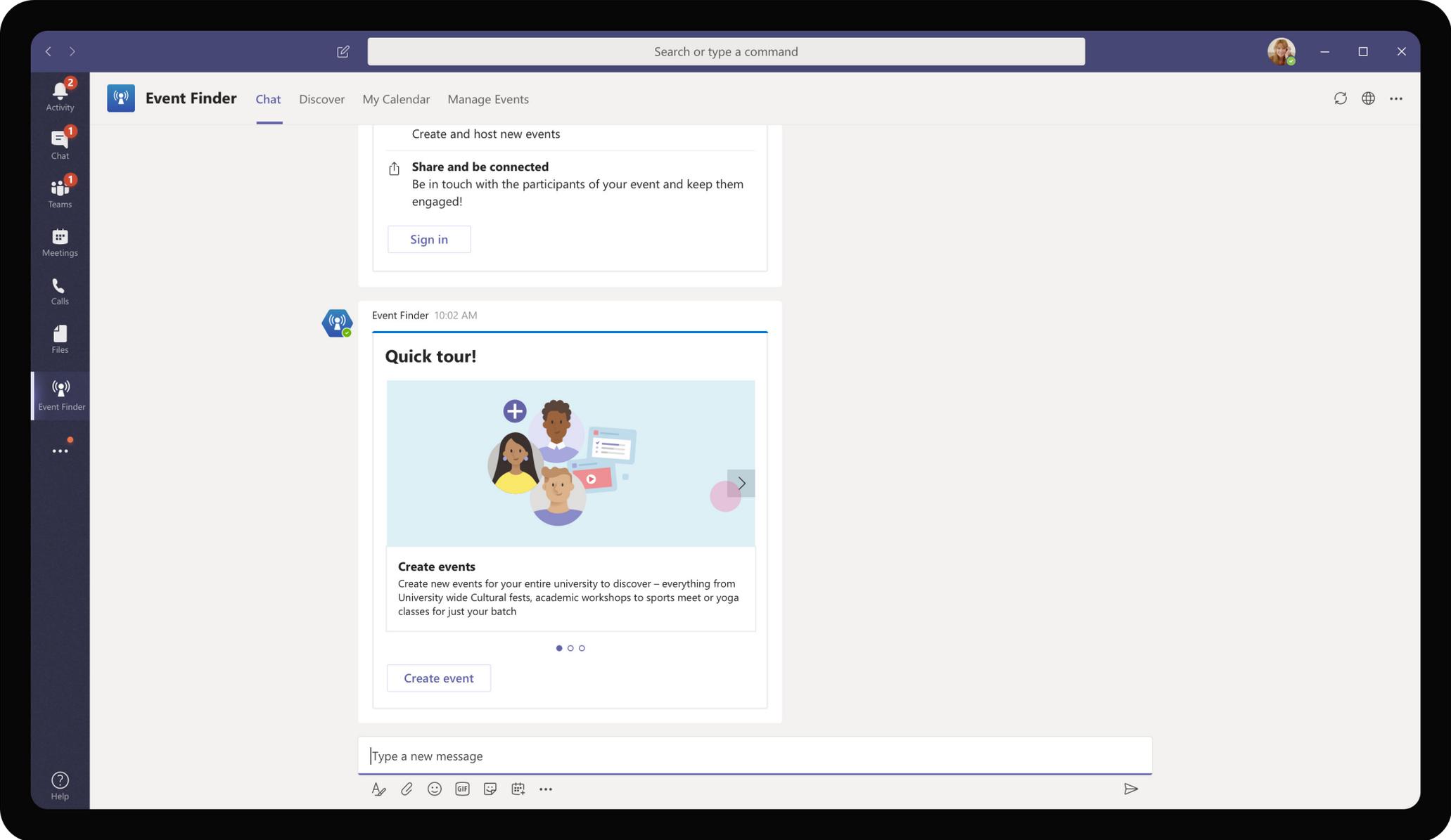
Daniela Manderà, Student

Daniela is a student at Contoso university. She is an advanced student in Computer Science and Statistics majors. She is passionate about Data science and is looking to conduct data science workshops in her university for extra credits.

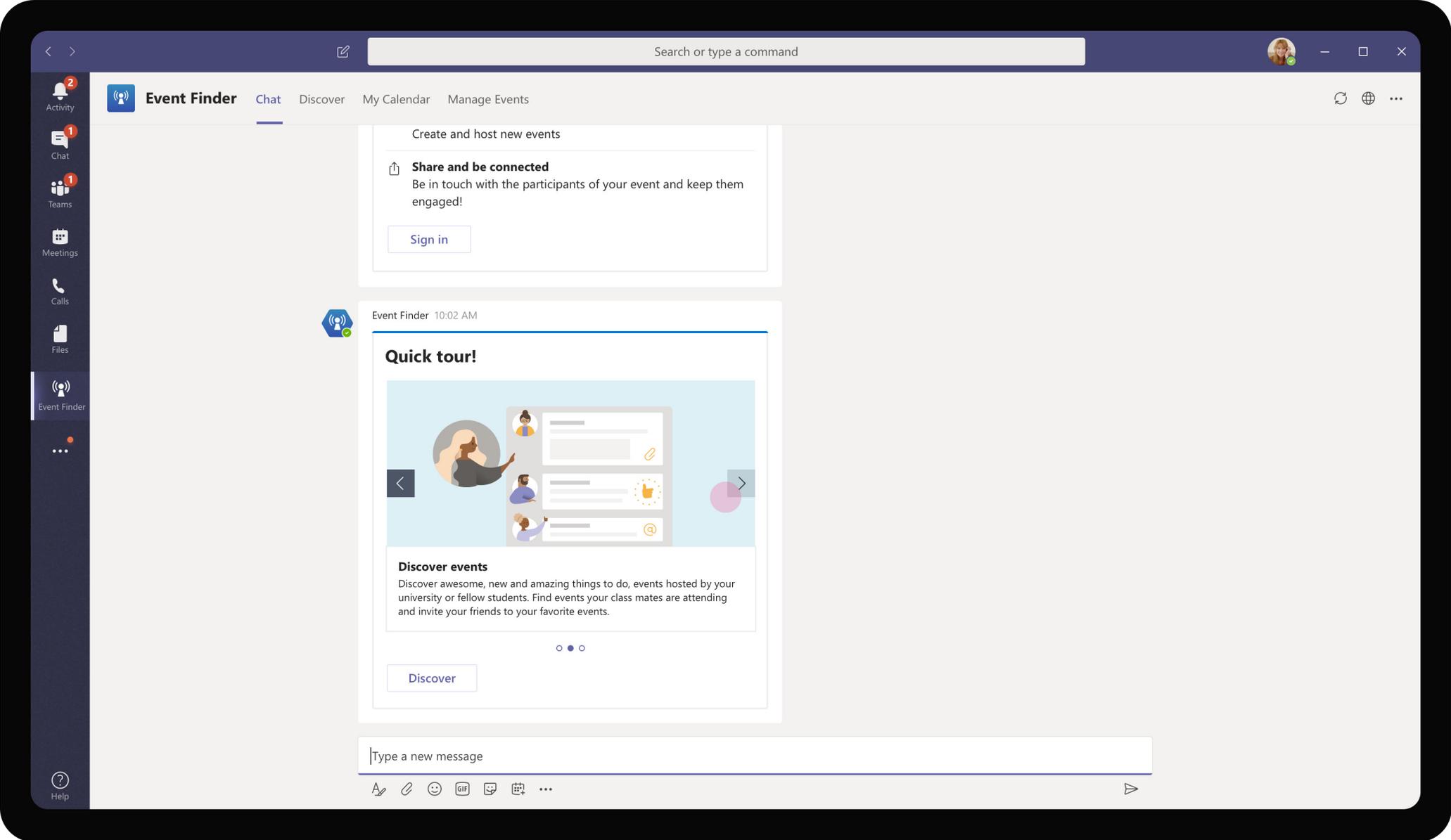
Daniela gets introduced to the app's functionality and features as she installs the app for herself.



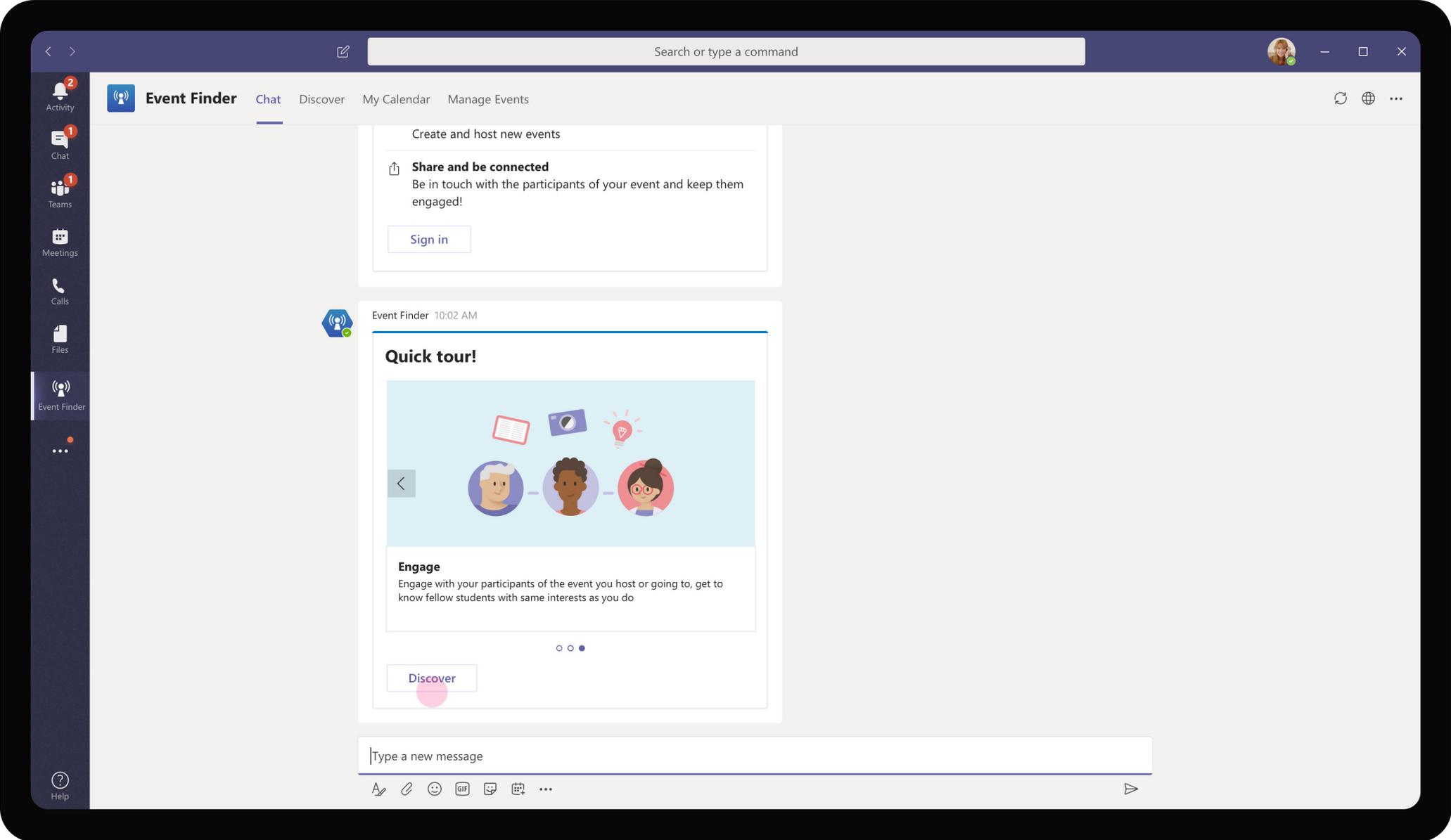
The app sends a welcome message on installation introducing the various actions that a user can perform using the app.



Students can create their own events within the campus and invite their fellow college mates to attend the event



Students part of Contoso university can search for events happening at any point in the campus and choose to join the event as a participant or as part of organizing committee depending on nature of the event.



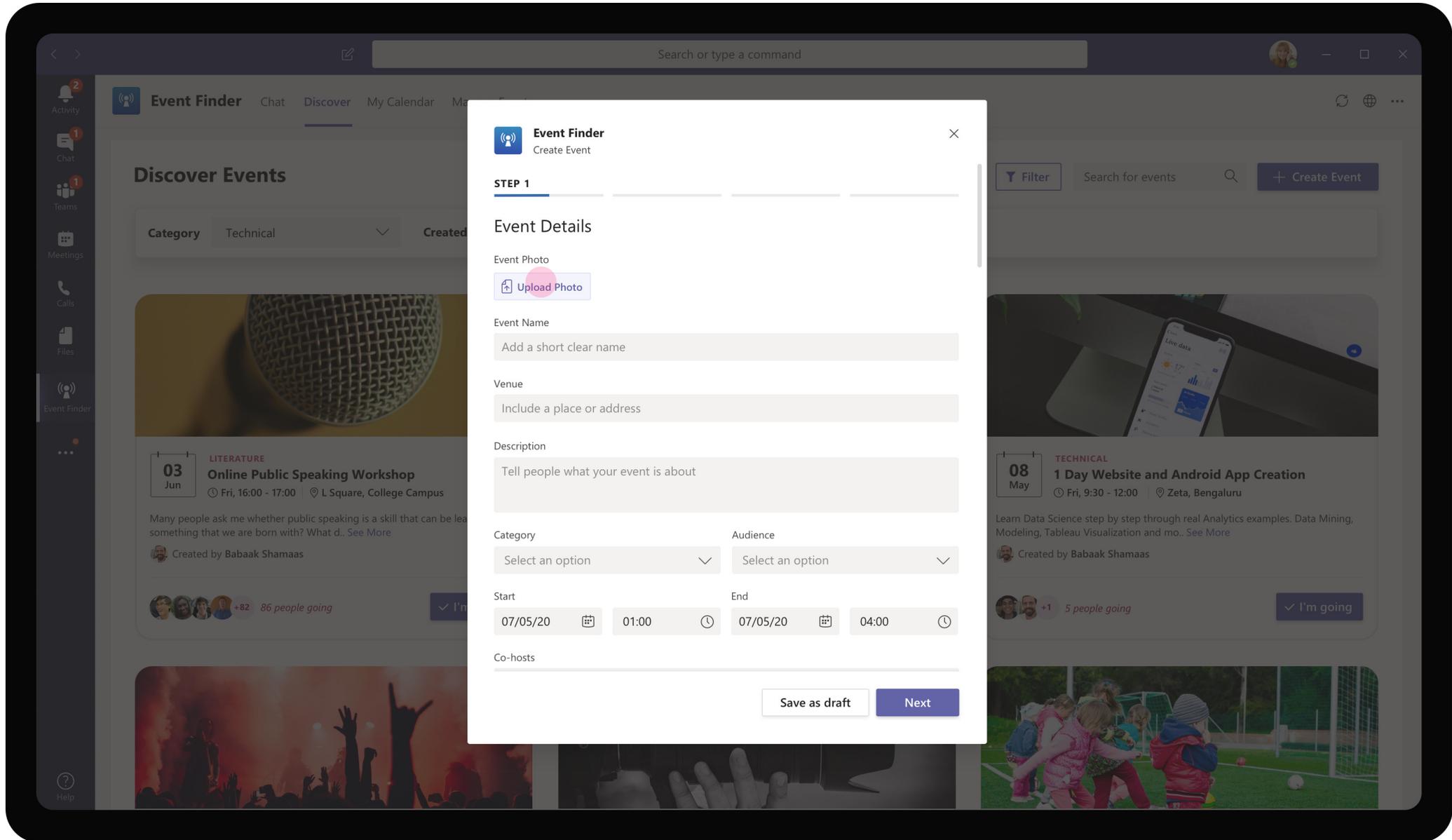
Once students join an event they can start engaging with other students who have joined as well. They can grow their network and connections within the campus by getting together with like-minded students with similar interests and likes

As Daniela intends to host an event, she chooses to create a new event providing its specifics and broadcasts it for others to view and register

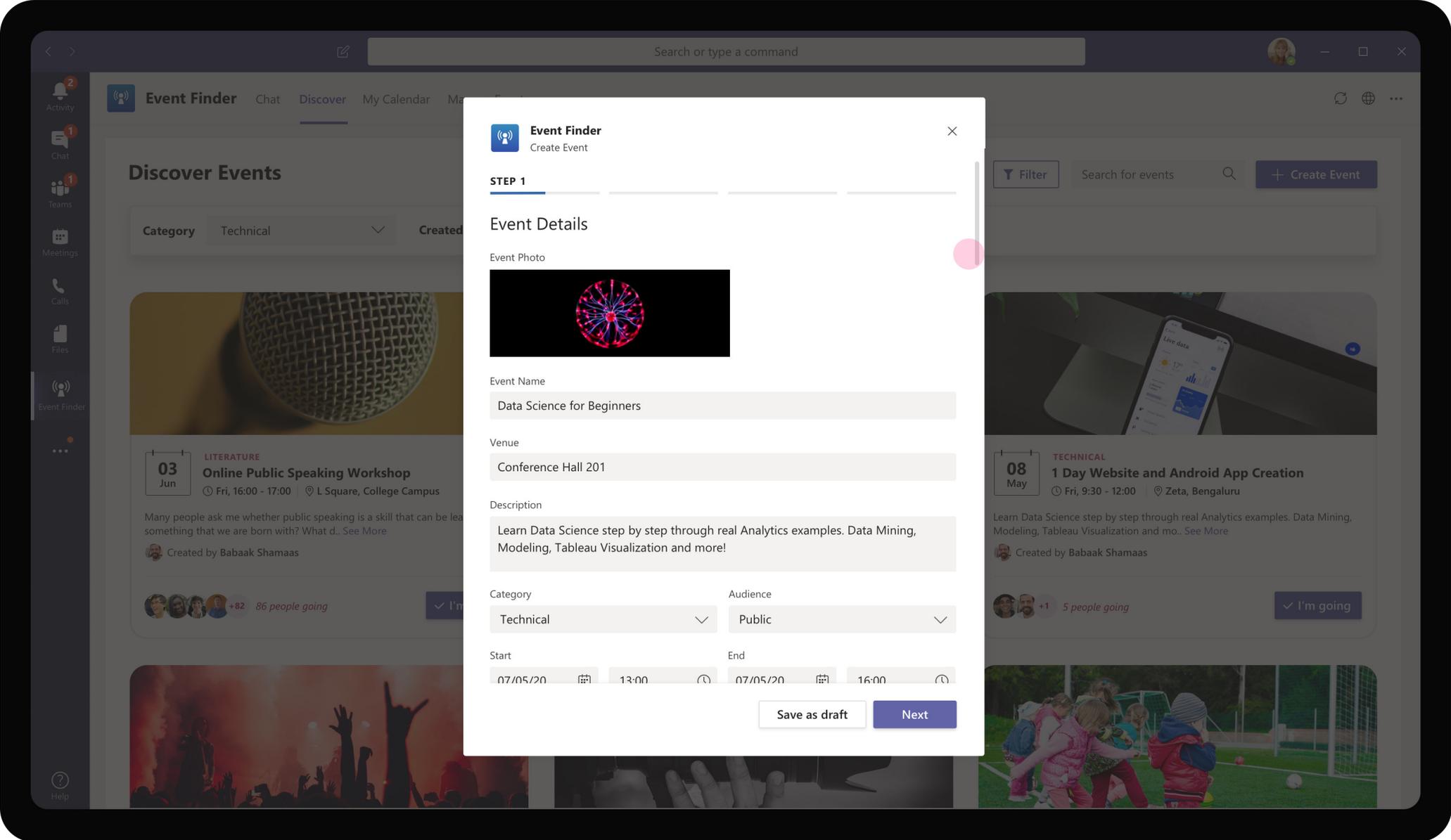
The screenshot displays the 'Event Finder' application interface. At the top, there is a search bar with the placeholder text 'Search or type a command'. Below the search bar, the navigation menu includes 'Event Finder', 'Chat', 'Discover', 'My Calendar', and 'Manage Events'. The 'Discover' tab is currently selected. On the left side, there is a vertical sidebar with icons for 'Activity', 'Chat', 'Teams', 'Meetings', 'Calls', 'Files', and 'Event Finder'. The main content area is titled 'Discover Events' and features a grid of event cards. Each card includes a category, date, title, time, location, a description, the creator's name, and a 'I'm going' button. The events shown are:

- 03 Jun LITERATURE Online Public Speaking Workshop**: Fri, 16:00 - 17:00 | L Square, College Campus. Created by Babaak Shamaas. 86 people going.
- 21 May TECHNICAL The Rising 2020 | Women in AI Conference**: Thu, 9:00 - 11:00 | Conference Room No. 010. Created by Babaak Shamaas. 19 people going.
- 08 May TECHNICAL 1 Day Website and Android App Creation**: Fri, 9:30 - 12:00 | Zeta, Bengaluru. Created by Babaak Shamaas. 3 people going.
- 29 Apr CULTURE CommonRoots: A Social Cause Music Fest**: Wed, 17:00 - 19:00 | Leela Palace, Old Airport Road, HAL.
- 20 Apr ART Secrets for a Perfect Photography**: Mon, 12:00 - 14:00 | L Square, College Campus.
- 20 Apr FUN & LEISURE Fun time with children!**: Thu, 11:00 - 13:00 | Football Court.

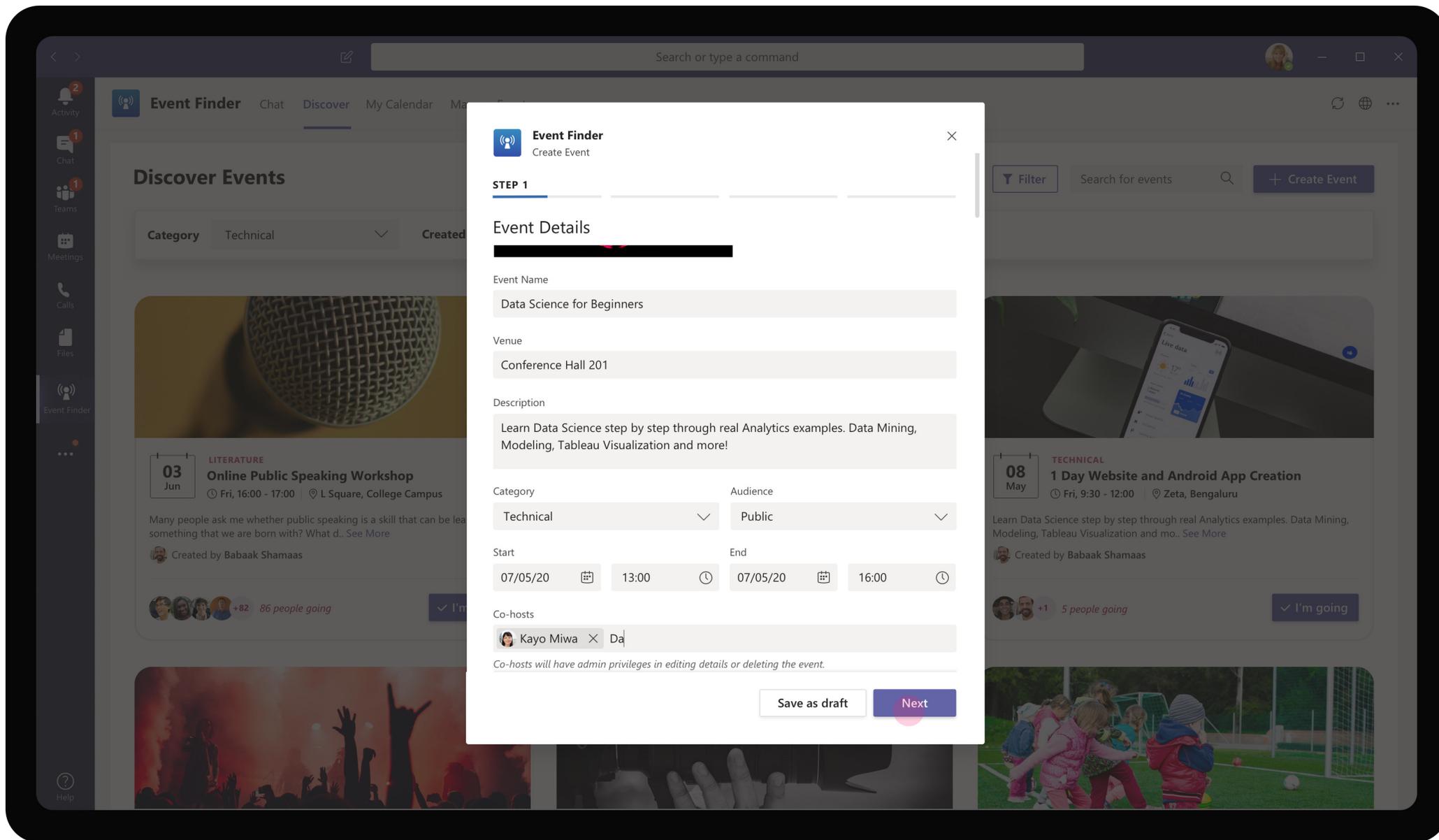
Daniela can create new events by clicking on the 'Create Event' button in the 'Discover' tab. It is placed prominently and is a persistent way that Daniela can come back to whenever she has a need to host an event for her batchmates or class members.



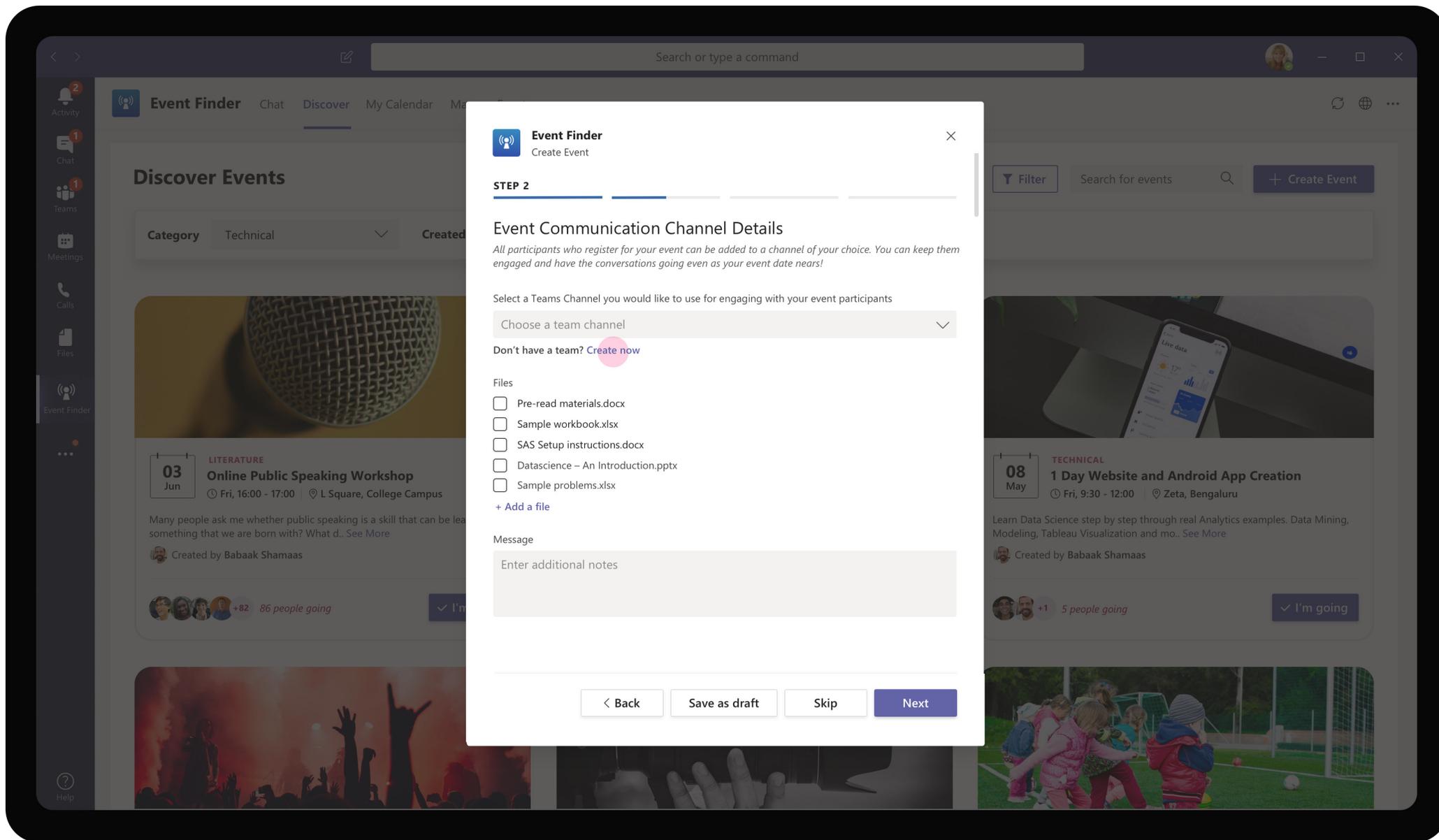
A task module opens with an Event creation wizard that shows step by step input form for collecting details around the event.



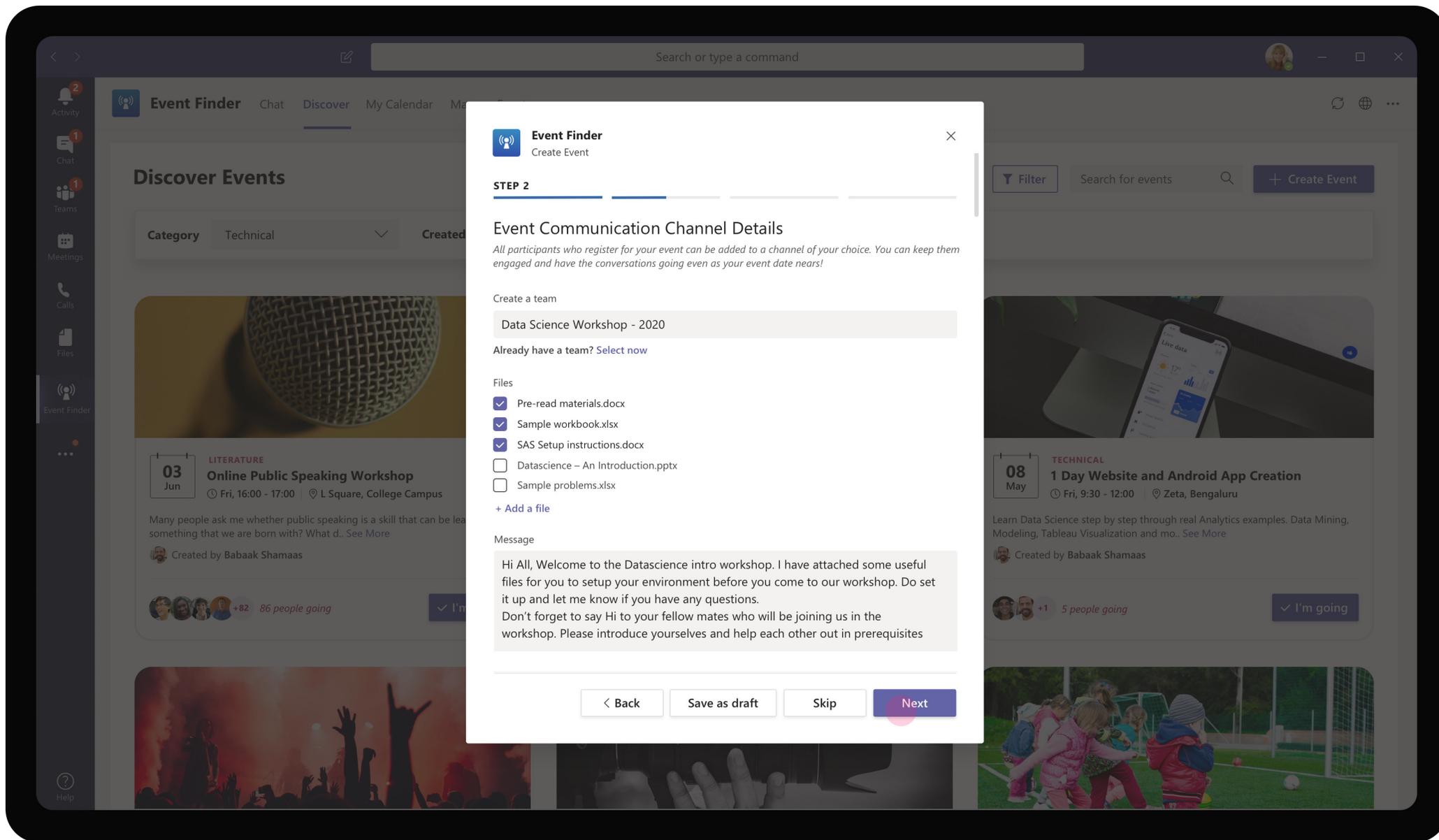
Daniela enters information about the event in each step. She marks the event as Technical under category and chooses her Audience as public. An event with public audience is visible across entire university for anyone to register and attend.



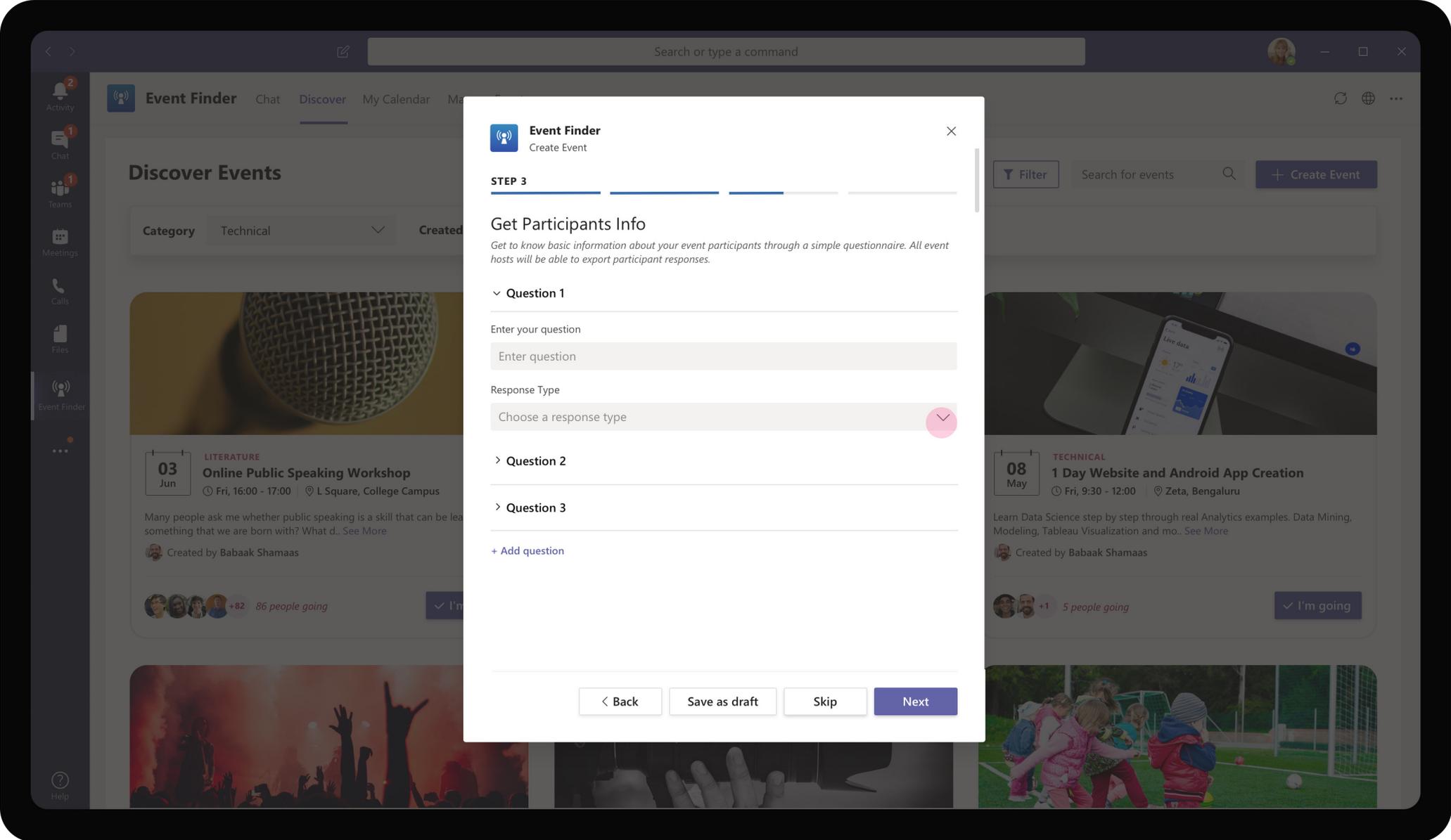
She proceeds to choose co-hosts for the event. These members will have access privileges to the event that include viewing registration details, editing and cancelling the event.



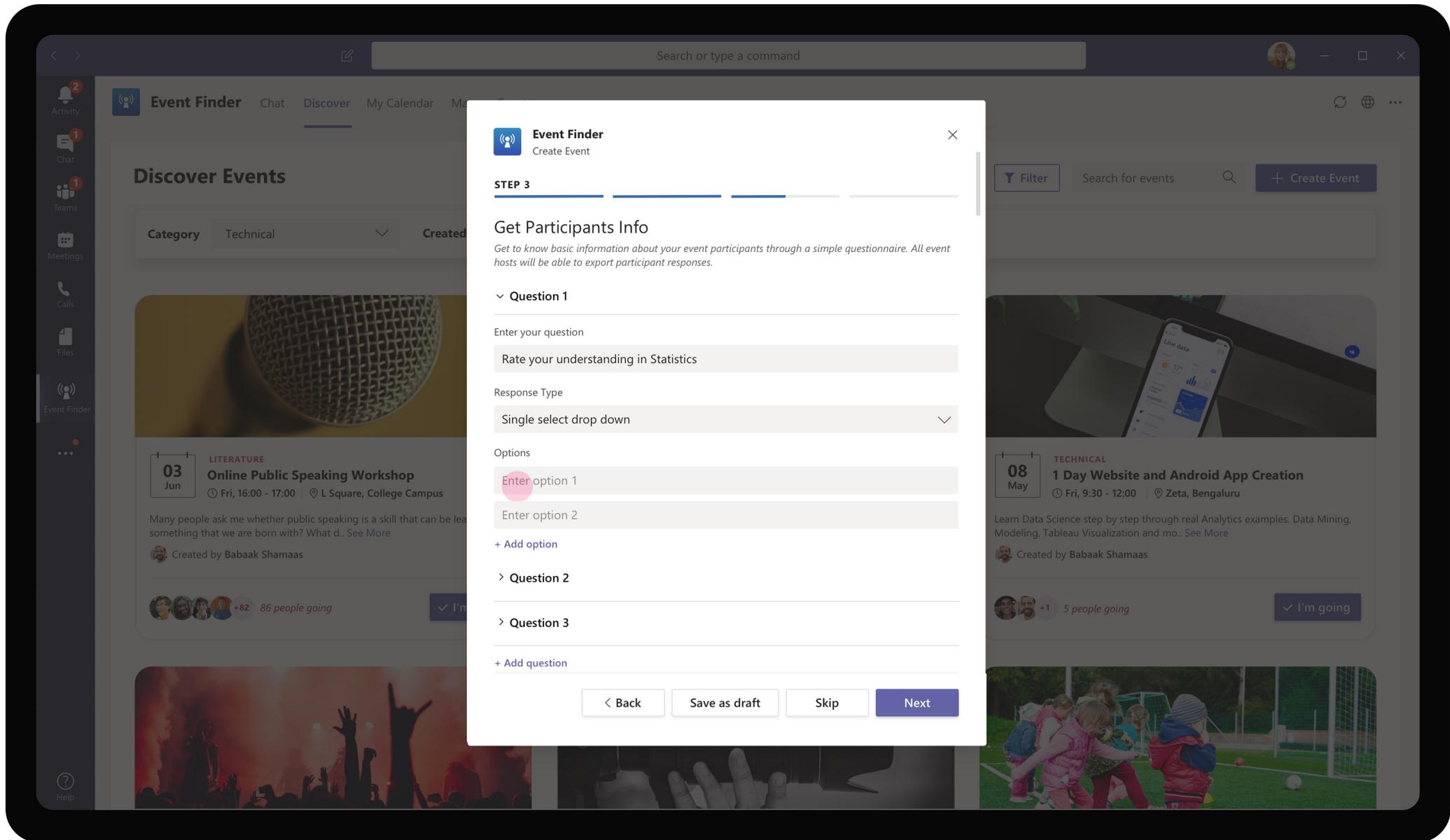
As an optional step, Daniel may choose to associate an event with a Team. When this is chosen, all members who register for the event are brought inside a Team automatically for further communication and information sharing.



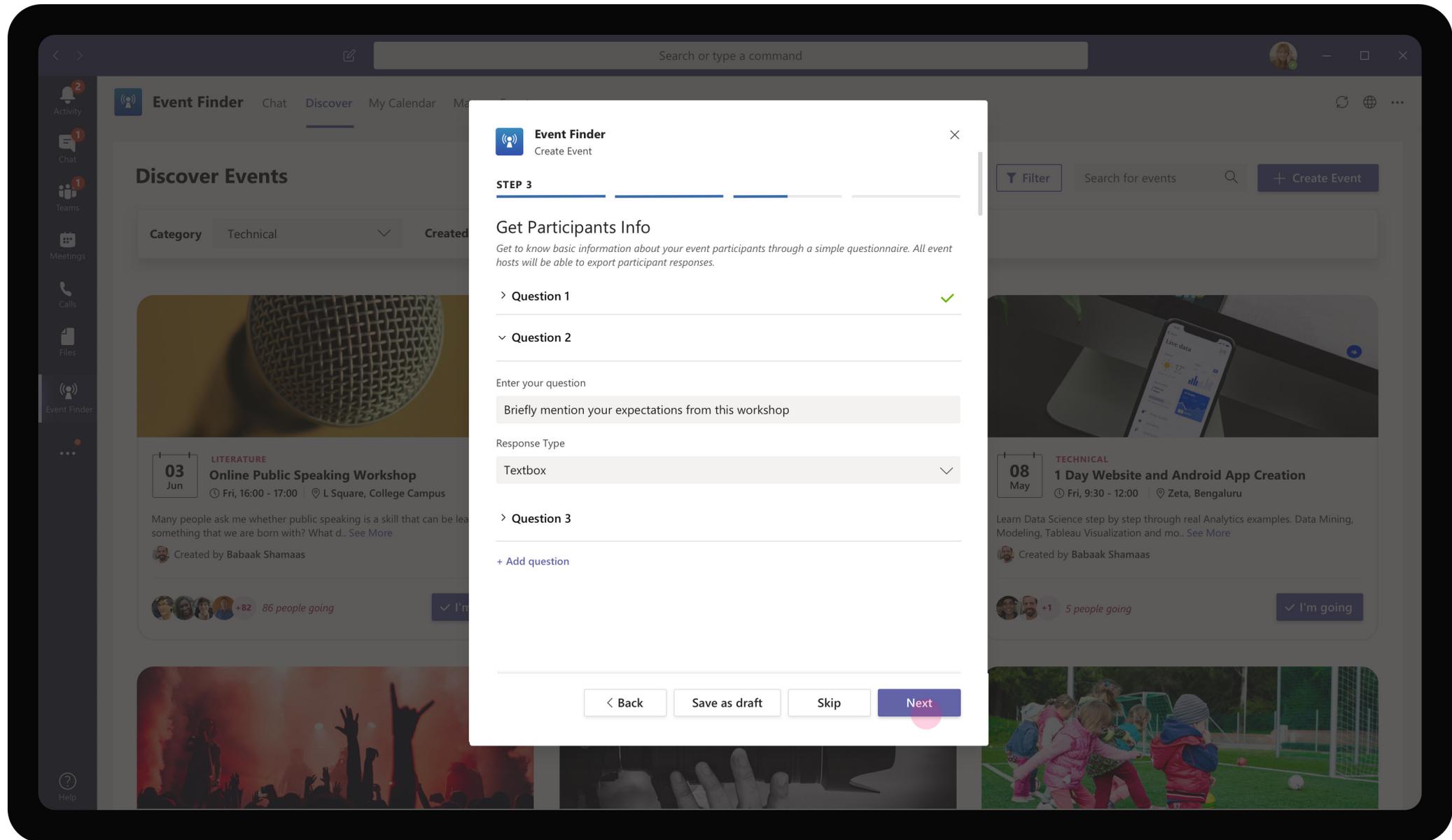
In addition to adding attendees to the Team channel, Daniel can also pick and choose files that need to be added to the Team and a welcome message to be displayed in the channel.



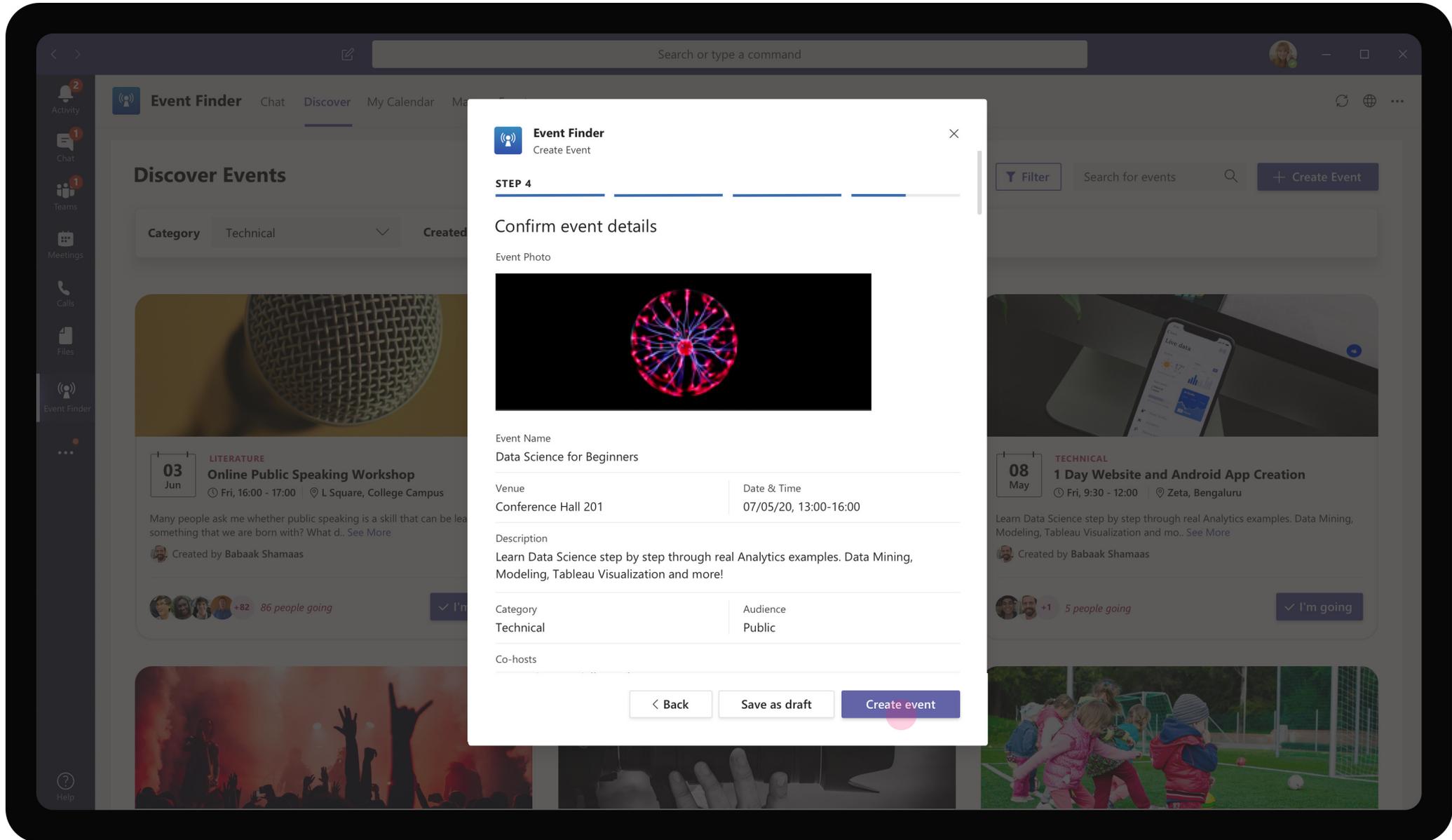
Most event registrations have customary questions that ask the users who wish to register. The app provides an option for Daniela to customize and ask these questions to students who wish to register for her events.



Daniela wishes to know the experience level of students who wish to attend her events so that she can fine tune her content based on the audience skill gap.

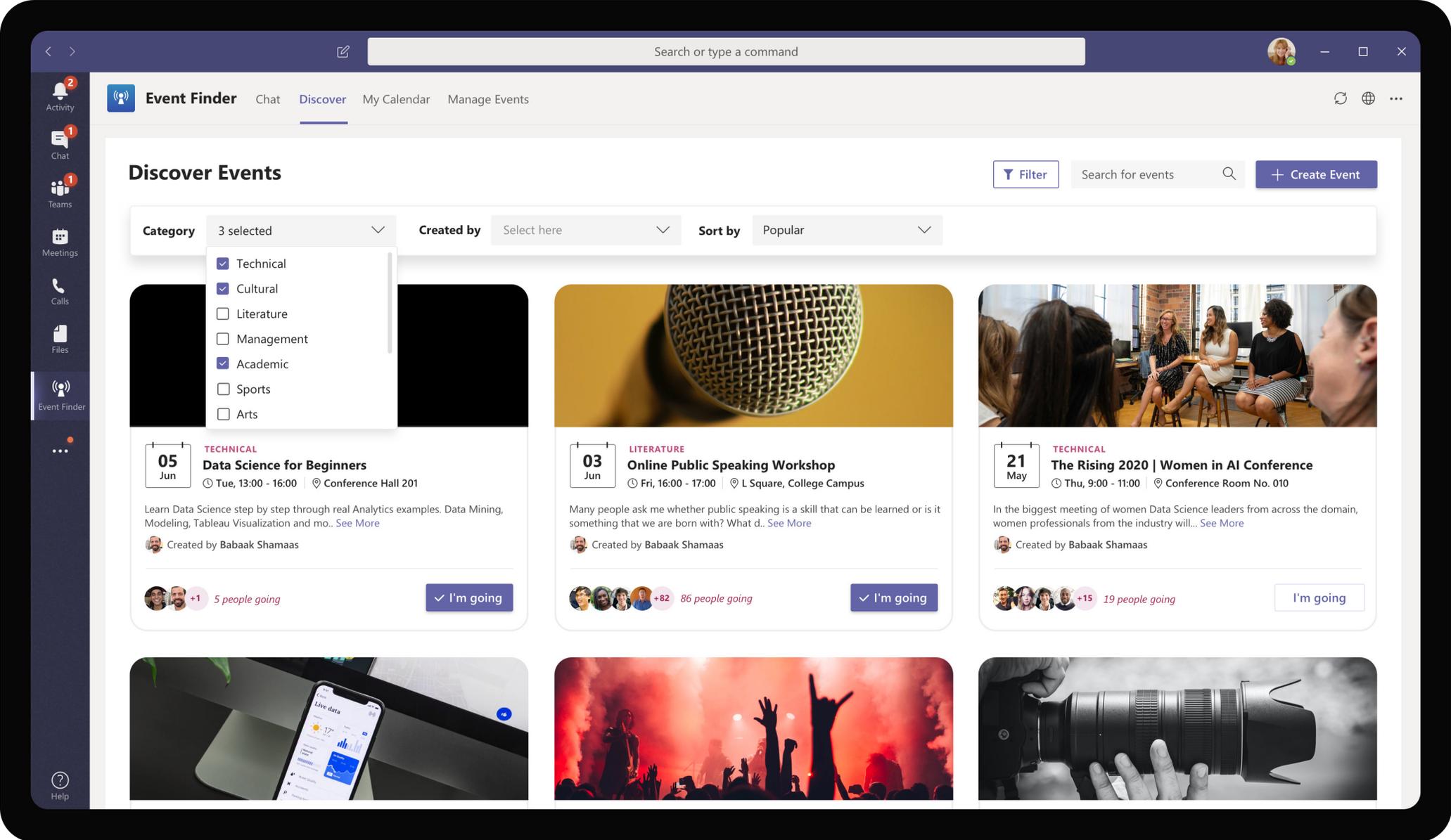


She also receives from her attendees on their expectations upfront. This is chosen as a small text box where attendees will be able to mention their expectations as a free flowing text.

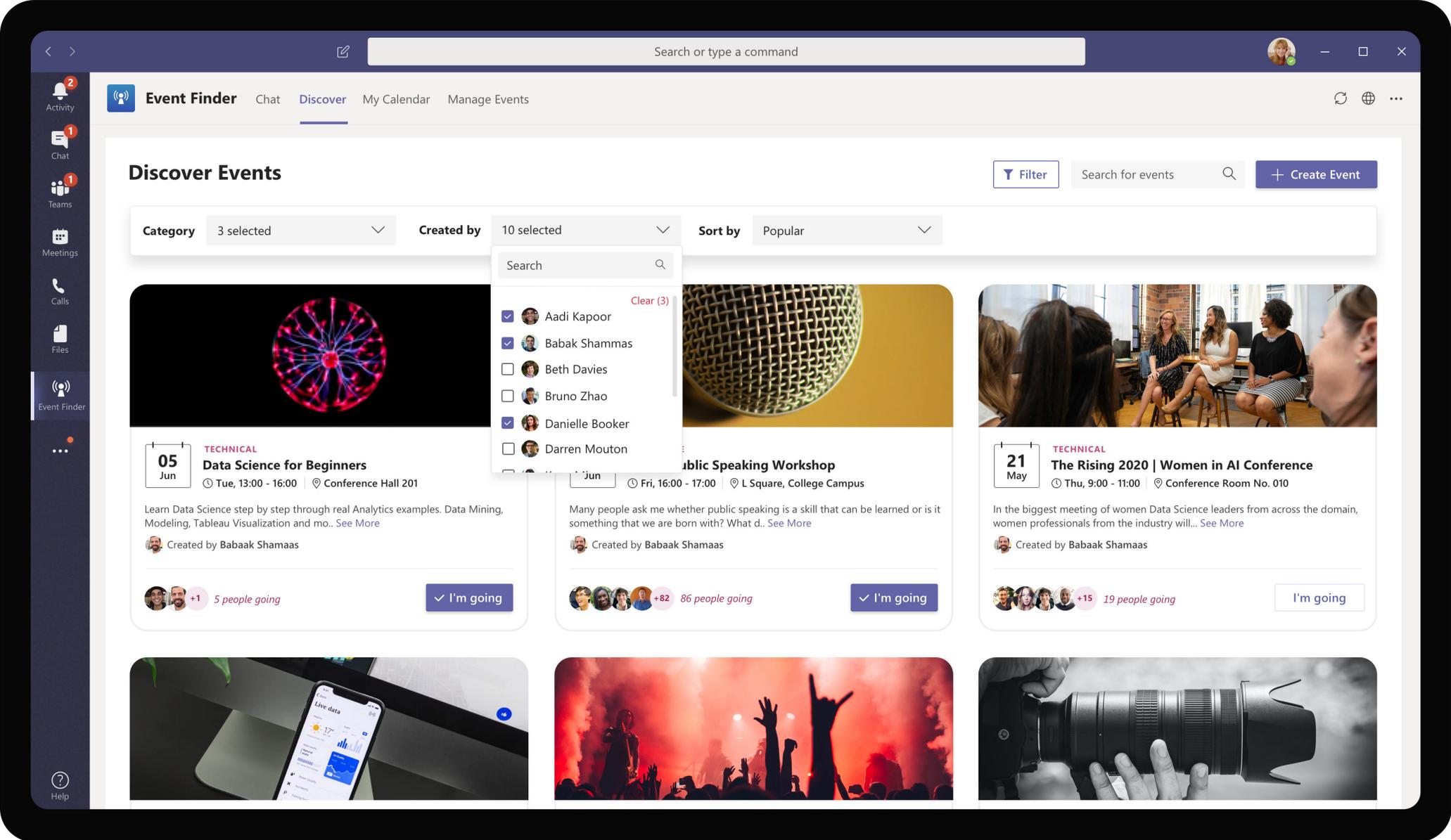


Finally the app provides a preview of her event details for her to confirm before creating the event.

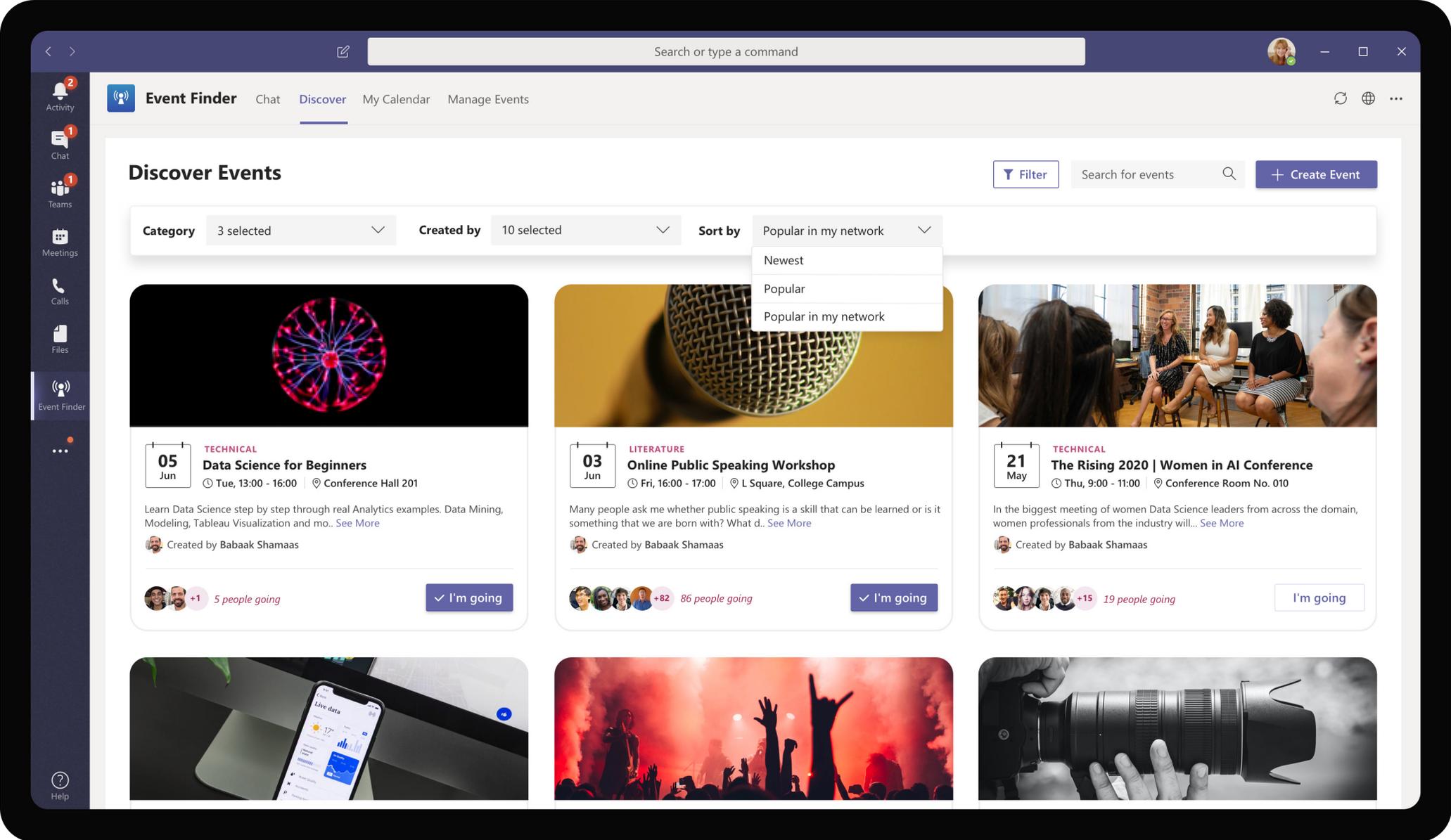
As Daniela creates the event, it gets published for everyone in the university to discover. Interested students can check the event details and register within the app



The app allows filtering the events by category...



The app allows filtering the events by category person who created the event...



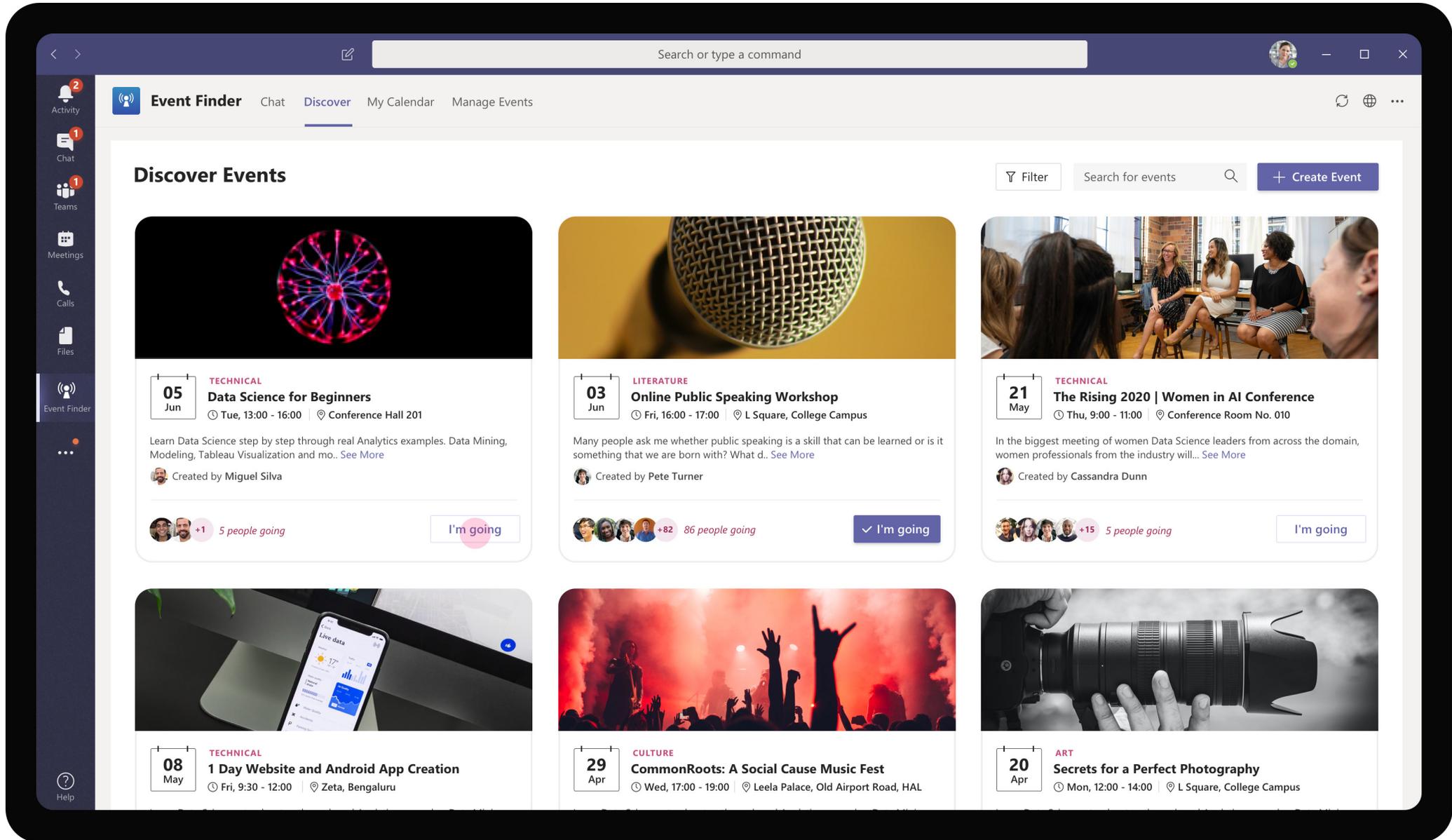
The app allows filtering the events by category, person who created the event, and based on popularity. It even shows students who have registered for an event encouraging others to register as well.



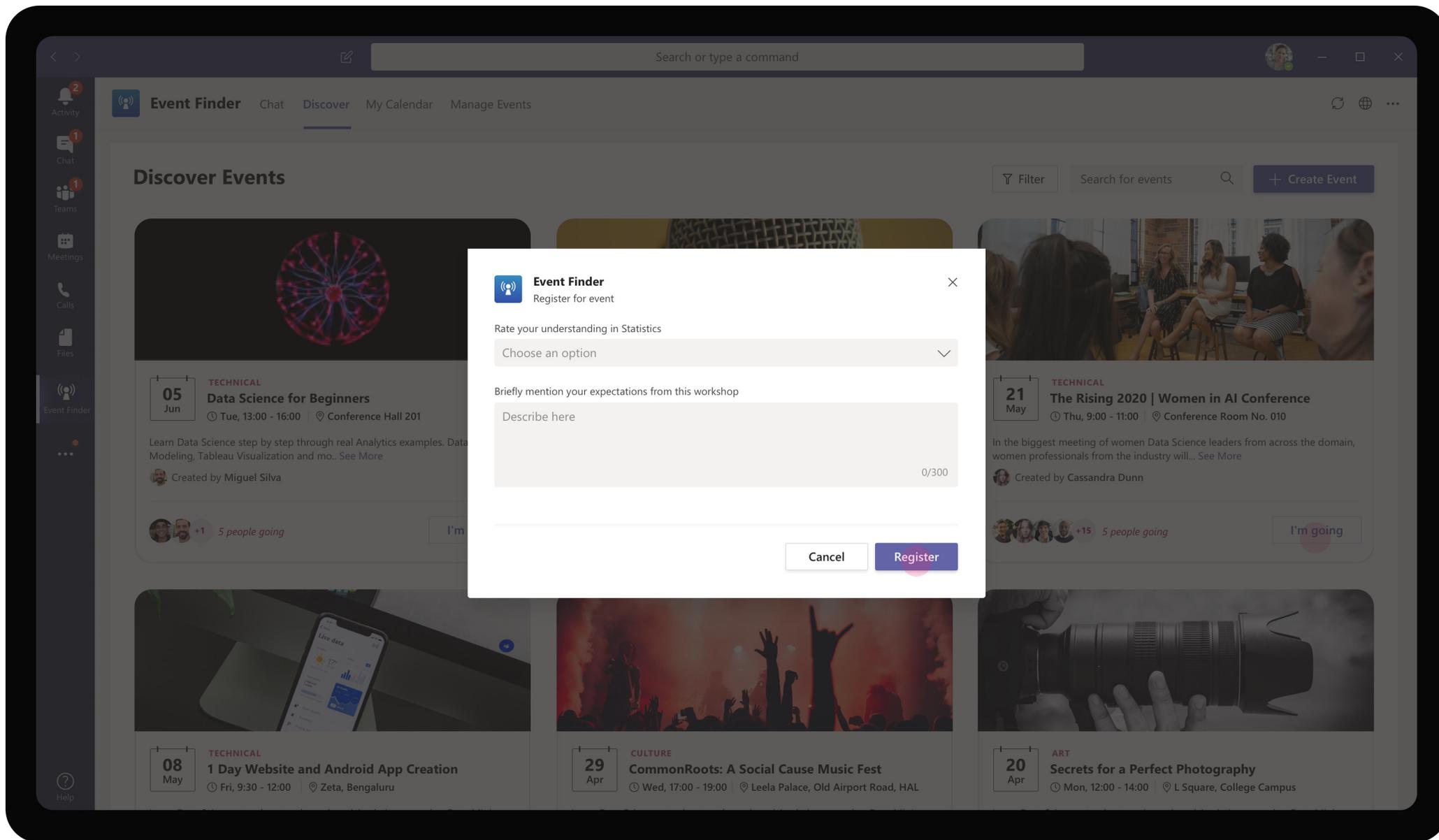
Reta Taylor, Statistics Student

Reta is a statistics student who is interested in getting into the career of big data analysis and data science. She has done her own preparation but feels it would be helpful for her to join a study group or entry level crash course

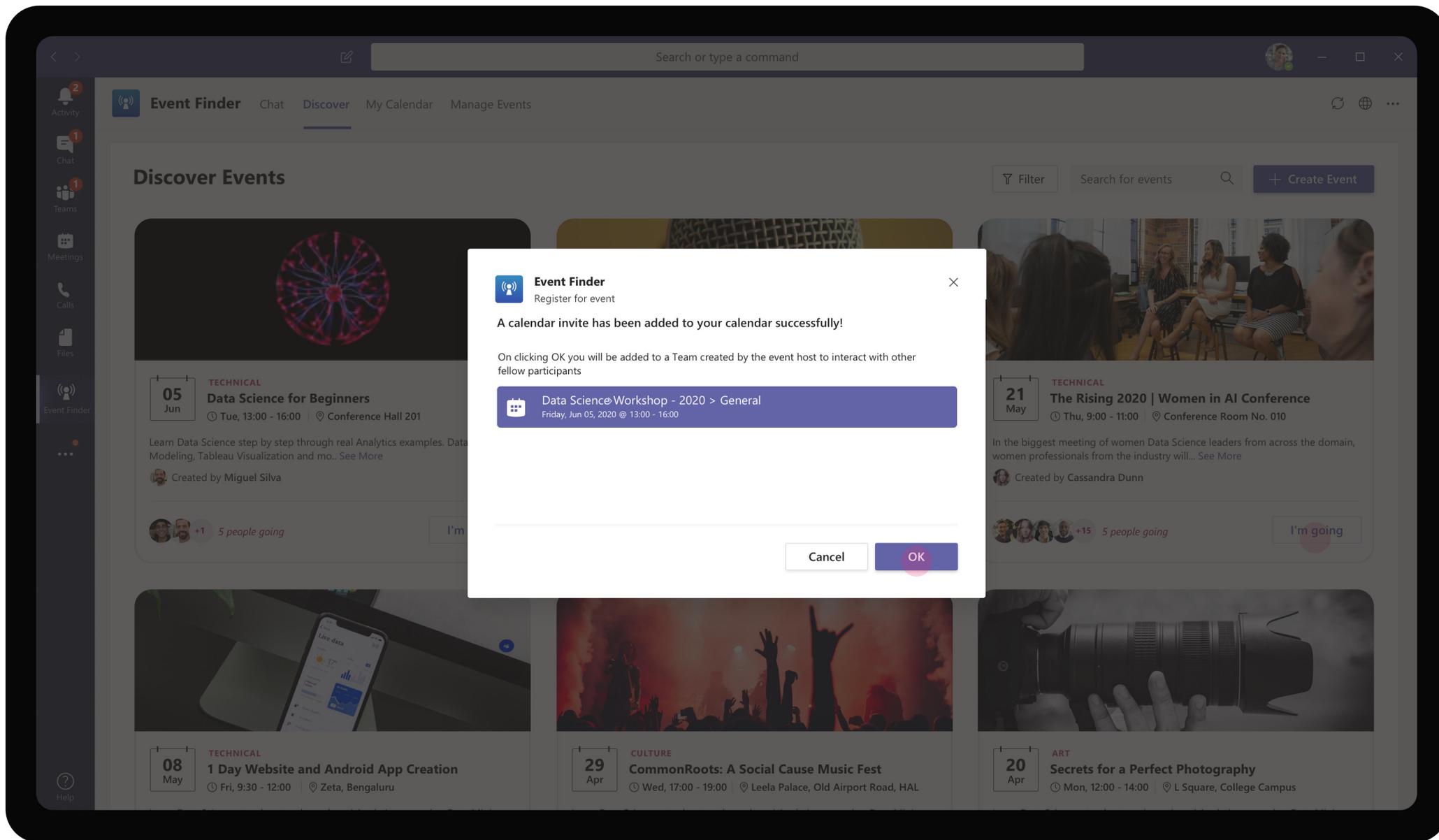
Reta Taylor is keen on finding events that will further her career aspirations. She finds a data science event organized in her university and decides to enroll.



Reta uses the Discover tab in the app to check out the events that are currently happening or scheduled to happen in her campus. She finds that there is a beginner level data science workshop that would be a good fit for her.

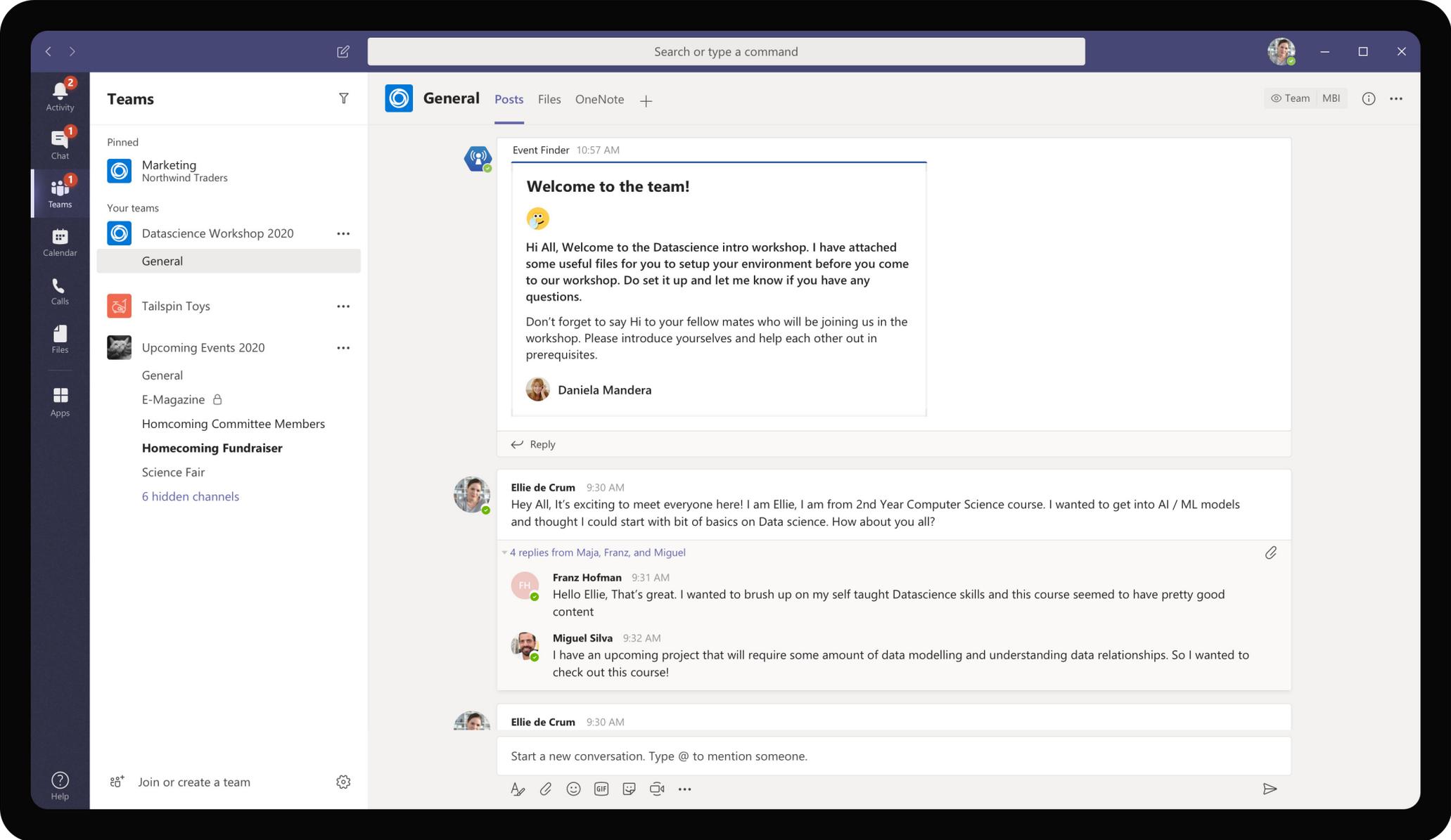


On expressing interest to join the app pops open a task module with a couple of questions for Reta to fill. She provides her input to the questions and clicks on register

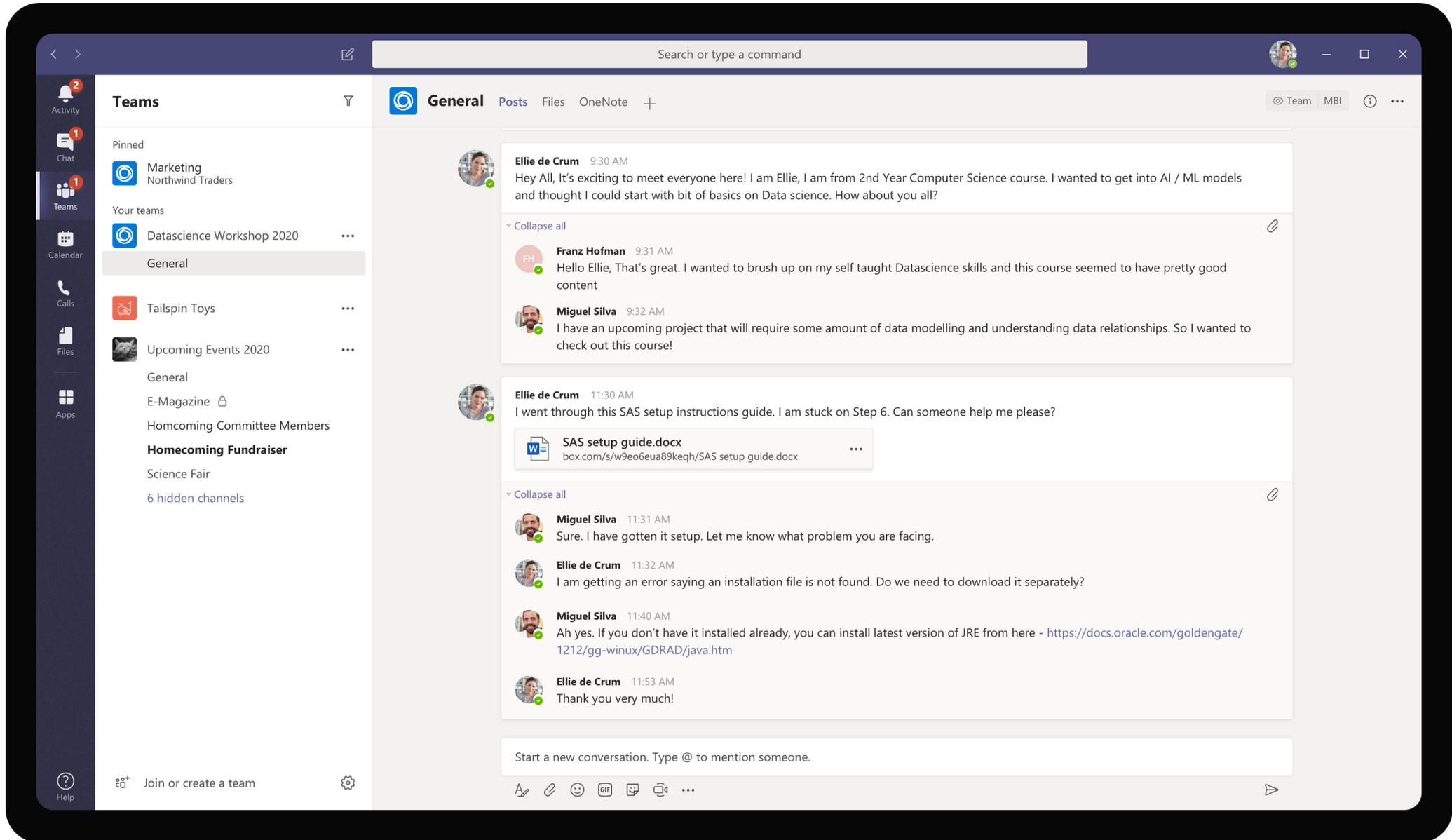


A calendar invite is automatically added to Reta's calendar for the event she registered. It also mentions that Reta will be added to a Team / channel as part of workshop prep.

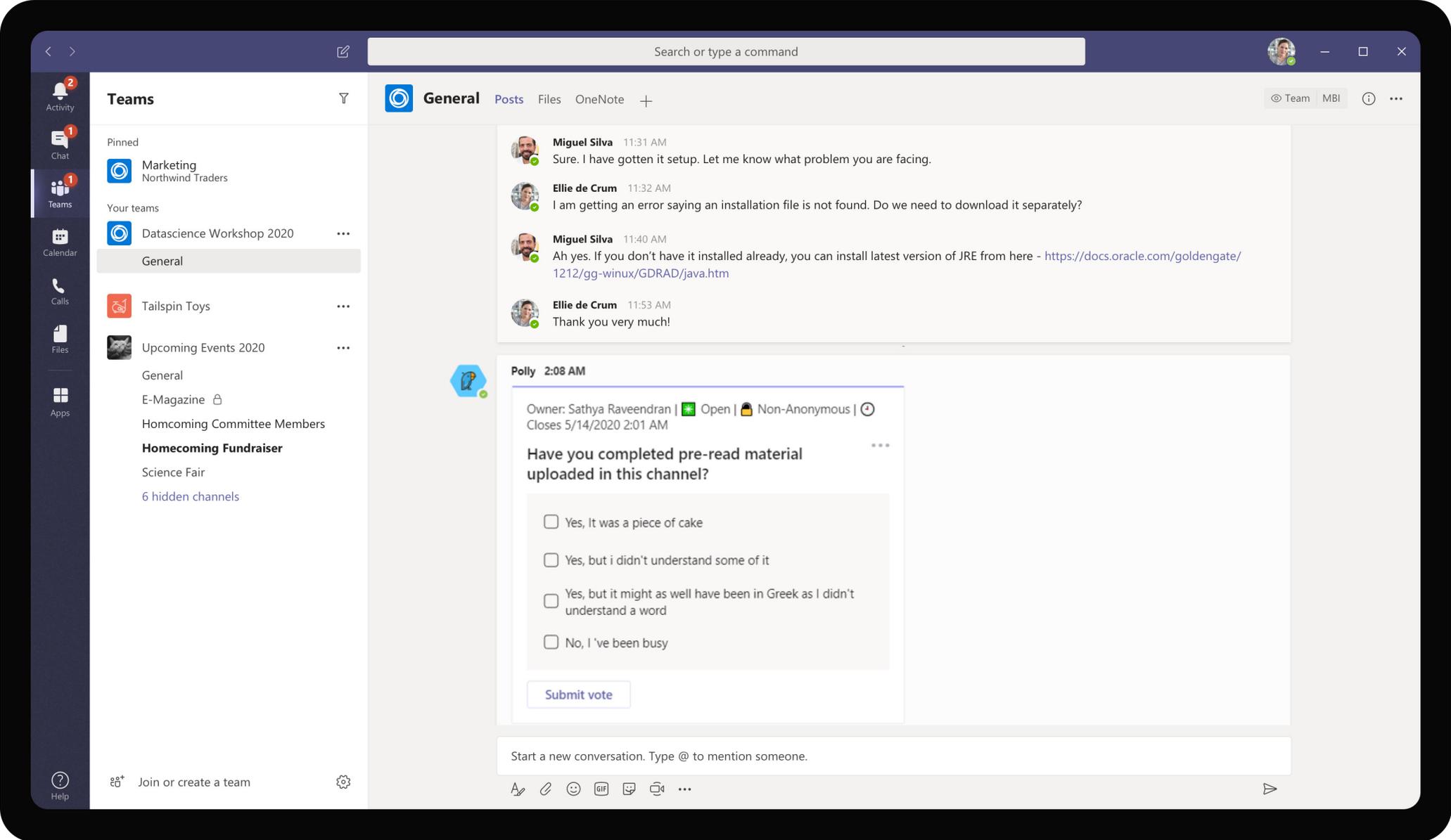
As participants registrations come through, the app adds the attendees to a Team chosen by Daniela where she can collaborate and provide further communication to attendees



The app automatically adds members to the Team created by Daniela for the specific event. Bot added to the team posts the welcome message designated by Daniela.

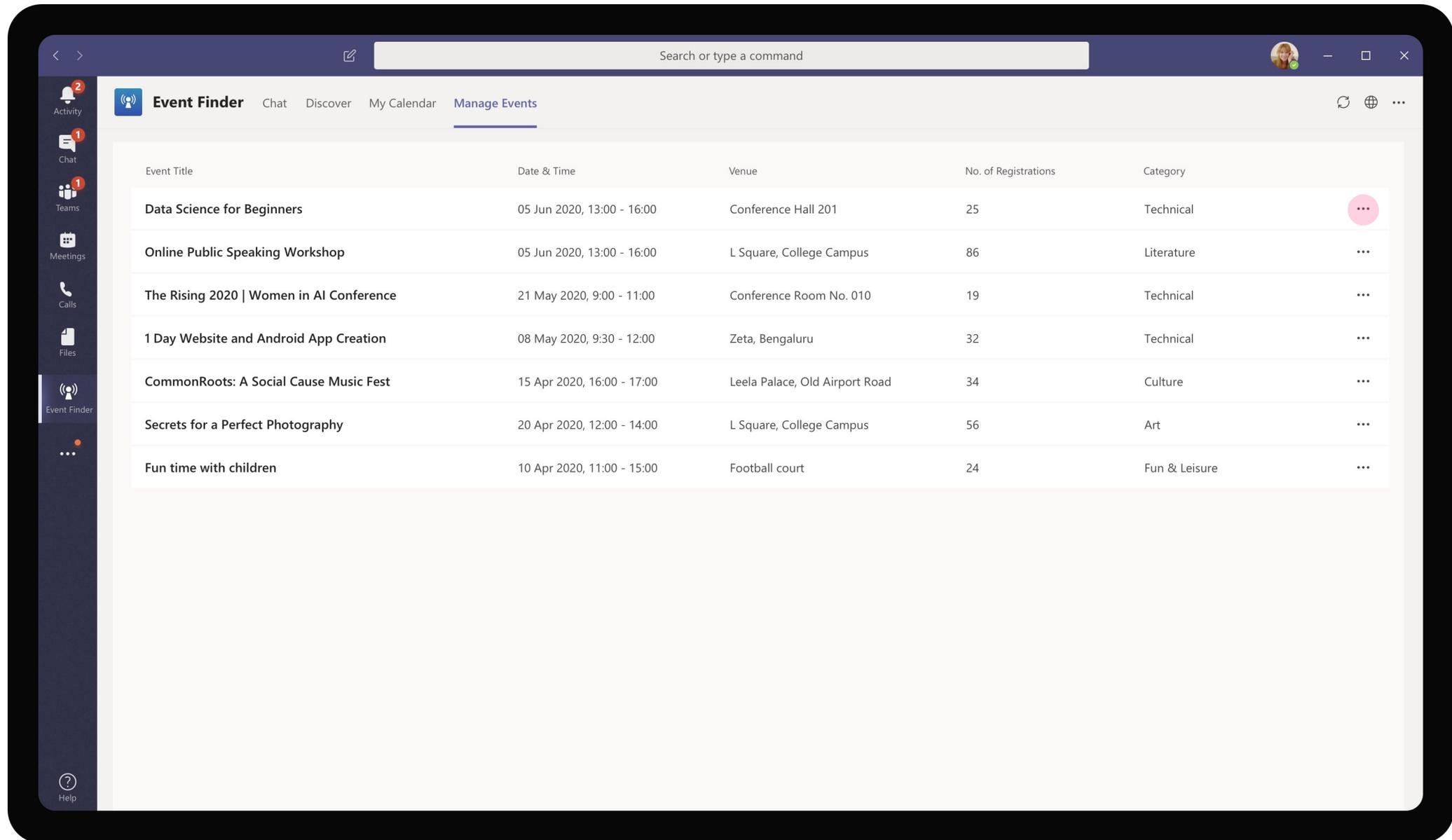


Pre-read materials and software setup files posted by Daniela are available for attendees to go through ask questions with the community if required. In addition to the actual event participants get to meet and be a part of an active data science learner's community.



Danie a can continue to engage with the participants and make sure they are all prepped for the workshop and have read the pre-read materials required to understand workshop content.

As Daniela receives enough attendees to fill up her workshop capacity, she can go through list of events that she owns and close registrations



The screenshot displays the 'Event Finder' application interface. The top navigation bar includes a search bar with the placeholder text 'Search or type a command', a user profile icon, and window control buttons. The left sidebar contains navigation options: Activity (2 notifications), Chat (1 notification), Teams (1 notification), Meetings, Calls, Files, and Event Finder (selected). The main content area is titled 'Event Finder' and 'Manage Events'. It features a table with the following columns: Event Title, Date & Time, Venue, No. of Registrations, and Category. Each row also includes a three-dot menu icon for actions.

Event Title	Date & Time	Venue	No. of Registrations	Category	
Data Science for Beginners	05 Jun 2020, 13:00 - 16:00	Conference Hall 201	25	Technical	...
Online Public Speaking Workshop	05 Jun 2020, 13:00 - 16:00	L Square, College Campus	86	Literature	...
The Rising 2020 Women in AI Conference	21 May 2020, 9:00 - 11:00	Conference Room No. 010	19	Technical	...
1 Day Website and Android App Creation	08 May 2020, 9:30 - 12:00	Zeta, Bengaluru	32	Technical	...
CommonRoots: A Social Cause Music Fest	15 Apr 2020, 16:00 - 17:00	Leela Palace, Old Airport Road	34	Culture	...
Secrets for a Perfect Photography	20 Apr 2020, 12:00 - 14:00	L Square, College Campus	56	Art	...
Fun time with children	10 Apr 2020, 11:00 - 15:00	Football court	24	Fun & Leisure	...

Manage events tab lists events that Daniela is a host or co-host. She is given a view of participants who have registered for each event.

The screenshot displays the 'Event Finder' interface, specifically the 'Manage Events' section. The main content is a table listing various events. A context menu is visible over the event 'The Rising 2020 | Women in AI Conference', providing options to manage the event's registration and details.

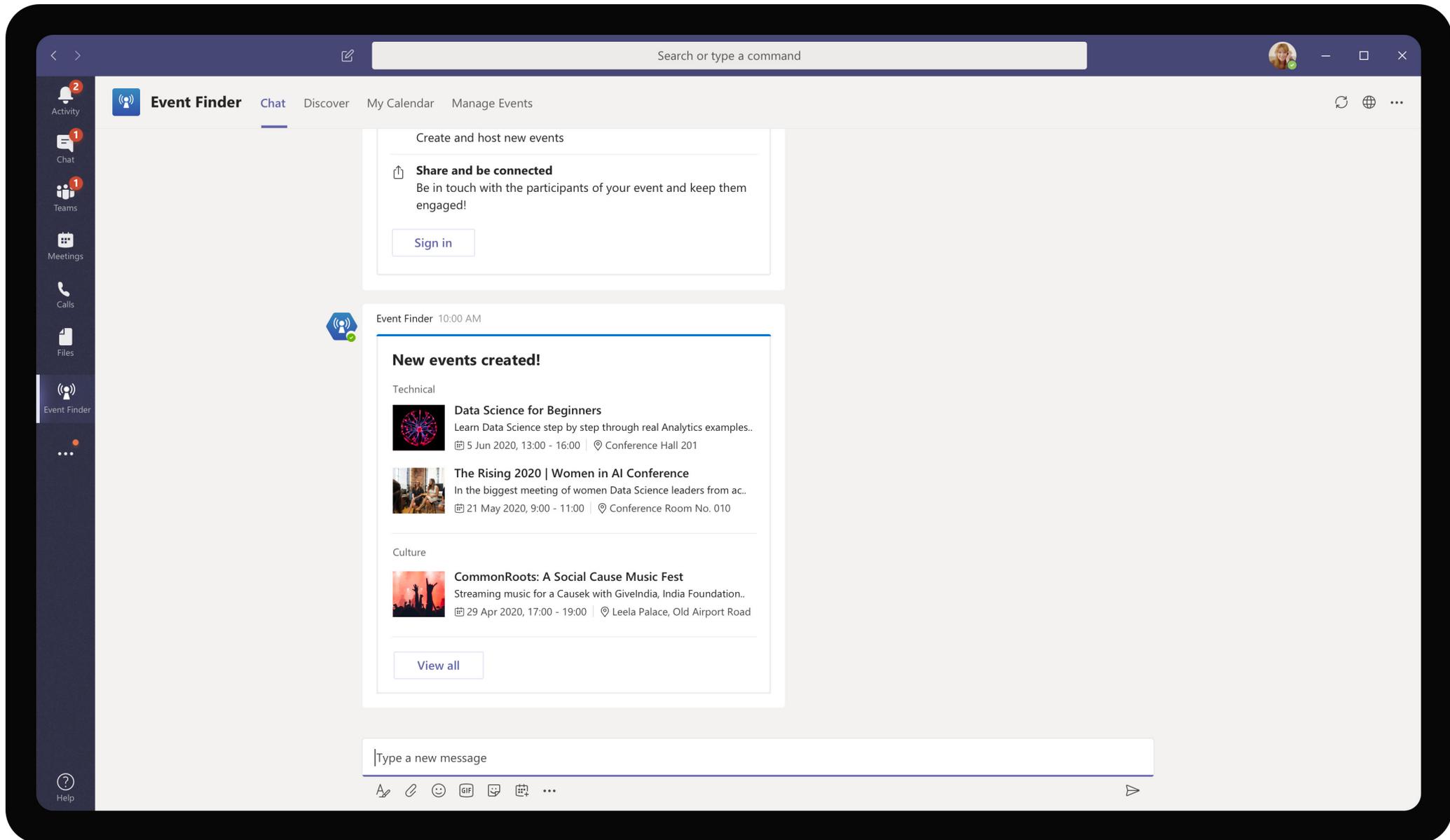
Event Title	Date & Time	Venue	No. of Registrations	Category
Data Science for Beginners	05 Jun 2020, 13:00 - 16:00	Conference Hall 201	25	Technical
Online Public Speaking Workshop	05 Jun 2020, 13:00 - 16:00	L Square, College Campus	86	Liter
The Rising 2020 Women in AI Conference	21 May 2020, 9:00 - 11:00	Conference Room No. 010	19	Tech
1 Day Website and Android App Creation	08 May 2020, 9:30 - 12:00	Zeta, Bengaluru	32	Tech
CommonRoots: A Social Cause Music Fest	15 Apr 2020, 16:00 - 17:00	Leela Palace, Old Airport Road	34	Culture
Secrets for a Perfect Photography	20 Apr 2020, 12:00 - 14:00	L Square, College Campus	56	Art
Fun time with children	10 Apr 2020, 11:00 - 15:00	Football court	24	Fun & Leisure

The context menu for 'The Rising 2020 | Women in AI Conference' includes the following actions:

- Close Registrations
- Edit Event Information
- Export Registration Details
- Cancel Event

For each event, the host or co-host has additional privileges to edit the event details, export registration information (containing participant email address and response to the questions)

Students get alerts from the app periodically on new events that are added or if certain events are popular in the campus



The app provides a digest of events that were newly published and available for them to register. This could be popular events in their campus or events that they have shown prior interest.

Solution Highlights – Best Practices

Key Solution Design Considerations

Platform Extension Points

- **Personal Scoped App** The app is defined to be predominantly personal scoped as event discovery (consume) and posting (produce) are individual activities. The collaboration part of the app brings applicants into one team and encourages dialogue and knowledge sharing
 - Personal Tab – Both Discover and Manage Events are available as personal tabs for a user to discover interesting event based on each student's interest or passion
 - Personal Bot – Personal bot caters to each student's personal preferences and sends digests of new events
- **Channel Scope (Optional):** Although not represented in the earlier screen, the app has potential to have a channel tab with a config page to choose category / type of events. E.g. A Team / channel on a subject can have a channel tab filtered to events happening related to the subject

User Experience

- **Proactive Messages** are sent to students when new events are added and alerts when an event they have registered for is nearing.
- **Card refreshes** are used to minimize the number of cards sent to the end user and reduce overload on user's chat window by reducing the number of cards sent for the same event
- **Digest Cards** are used to show event names and summary information for each event. This also serves the purpose of collating all related information (events of the same category) in one unit as opposed to sending a card with event detail

Graph API

- Applicant insights information around collaboration can be retrieved using [People & Workplace Intelligence Graph API](#)
- The app also uses Graph API to [create a Team](#) and to retrieve [Files](#).

Solution Architecture

