

Team Project 2022-23

Project Ideas

February 2023

General students

- **Deduction Board Game:** A social deduction / murder mystery game that allows people to play together no matter where they are in the world. *Example:* Mimic (<https://www.brightful.me/games/mimic/>).
- **Time management:** A web app that integrates both tasks and calendar events. Will intelligently analyse your productivity to give effective feedback based on science. Also includes a pomodoro timer for deep focus and daily reviews. A digital personal assistant to guide people on how to better manage their life and time. *Examples:* Remember the milk (<https://www.rememberthemilk.com> as shown in Fig. 1), Todoist (<https://todoist.com>, etc).

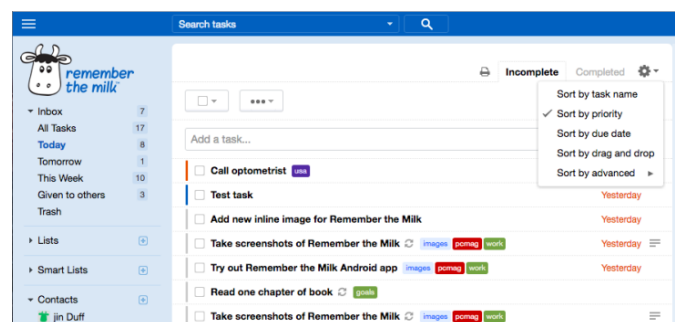


Figure 1: Remember the milk app.

- **Reading List:** A web app that allows users to submit your preferences and the app suggests suitable holiday packages using travel website APIs that you may not of thought about before. User can say yes or no to each and yes's will be added to a short list. Gives accompanying information (flights, hotels, attractions). *Example:* Pocket (<https://getpocket.com/en/>).
- **Appointment Tracker:** A waiting room ticketing system for healthcare institutions, like GPs or dentists, which automatically updates your expected time and position in the queue based on preconditions and the speeds of other appointments, and displays it on your phone. *Example:* Calendly (<https://calendly.com>).
- **Language Helper:** A web app that helps immigrants to find someone speaking their native language when moving to another country in order to help them with essential documents or just finding a friend. *Example:* HelloTalk (<https://web.hellotalk.com>).
- **Drawing:** A web app that allows users to submit their drawings based on a daily updated prompt and then vote and view other users submissions, a user should be able to like, dislike and report other submissions to accommodate a ranking system. *Example:* Penup (<https://www.penup.com/main/home>).
- **Clothes donation:** A web app where you sign up with an item of clothing that you want to donate

and you match with another item worth roughly the same price tinder-style, then swap the items (no money involved). *Example:* reGain app (<https://regain-app.com>).

- **Exchange books:** A Tinder style application for swapping books with users in your local area. *Examples:* BookSwap (<https://bookswap.co.uk>), Swappy books, etc.
- **Coding for everyone:** A web app for sourcing coding projects for university students to gain work experience. For individuals who need small coding projects to be done for cheap/no cost. *Example:* Codezips (<https://codezips.com>).
- **Study hard:** A web app that encourages students to study through competition. You can complete work assigned and compare your scores and how far you have progressed with other students on your course. It can also be used to set goals, for example you can see how many marks you need to get a first in your next assignment. *Example:* StudySmarter (<https://www.studysmarter.co.uk> as shown in Fig. 2).

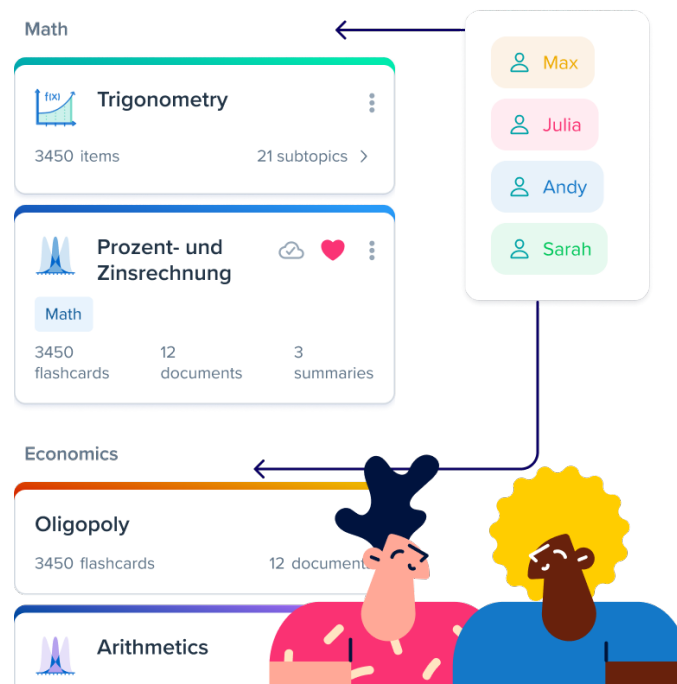


Figure 2: StudySmarter app.

- **Holidays planning:** A student group holiday planning to make it easier for students to plan breaks all in one place. *Example:* (<https://wanderlog.com>).
- **Memes:** A suite of tools to generate, store, organise, and paste memes anywhere. *Example:* Memes generator (<https://www.canva.com/create/memes/>).
- **House Swapping:** A web app that allows users to swap property with other users for free for short period of time. Students, first time buyers, freelancers. *Example:* Home exchange (<https://www.houseexchange.org.uk>).
- **Student support:** A web app that handles many worries of a starting student, ranging from a forum to ask things of senior members from the school to dating and societies. *Example:* Student handbook.
- **CS computer lab-helper booking/queue system:** A web app that allows users to check availability and book directly for the desired period, presenting them with a calendar and the available rooms. Adding photos of the rooms, capacity, location and a clear description will give users a clear picture of the rooms. Once a booking is complete, an email should be automatically send to the user with the booking details. *Examples:* Clearrooms (<https://portal.clearrooms>).

com/offices/hot-desks), SimplyBook.me, etc.

- **Team project:** Automated contribution measuring system for team project, teamwork and contribution tracker using Git-lab, Canvas, One-Drive APIs, shows contributions on graphs, uses traffic light system. *Examples:* Clockify (<https://clockify.me/apps>), Trello (<https://trello.com/>), etc.
- **Team project gallery:** Screenshot, project description and links to student projects with team project idea suggestion and team idea registration. *Example:* Asana (<https://app.asana.com>).
- **Team project presentation voting:** Project demo session voting system with staff dashboard, and tallies votes. *Example:* VoteMeApp (<https://voteme.app>).
- **Secret Present Organiser:** Online secret Santa like system for gift giving all year round, system to vote on pairing, give anonymous feedback on gift, dashboard for organiser. *Example:* Elfster (<https://www.elfster.com>).

AI students

- **Outfit Planner and Rating:** Allows users to generate new outfits from the clothes they have, suggests new items of clothing to complement what they already own, and plan their outfits for the week to suit the weather, events, and ensure you aren't wearing the same clothes consistently on the same days. The application should also allow users to rate each other's outfit. *Examples:* Pureple (<https://pureple.com>), XZ closet, etc.
- **Tickets Event:** A web app that finds daily tickets according to the user's request. *Example:* TodayTix (<https://www.todaytix.com> as shown in Fig. 3), Meetup, etc.

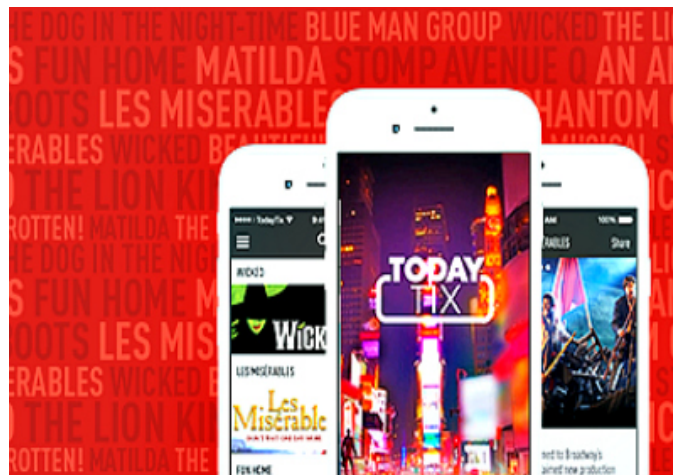


Figure 3: Todaytix app.

- **PlayList:** A Spotify playlist generator which uses AI to extract songs from a matching description. The app also matches users with other users based on their favourite albums and music genres. Users can see what music suggestions people with similar taste to them have. Users can also look through suggested venues based on their tastes. *Example:* Spotify (<https://open.spotify.com>).
- **Interview Helper:** AI interview preparation helper. Provide user a mock interview with the questions about their dream jobs. The answers will be evaluated by AI to help the user improve their interview skills. *Examples:* InterviewApp (<https://itwapp.io>), Outmatch Interview, etc.
- **Pet Helper:** This application is aimed to help pet owners to raise their own pets and to encourage people who want a pet to own one. This application has many helpful functions such as a reminder calendar that reminds users to feed their pet, walk their pet and most importantly vaccinate their

pet. For the AI part of the app, when a new user registers the app, they can upload a picture of their pet and AI will identify if the user's pet is either a Dog or Cat, and based on that user will have a different set of functions to assist them. *Example:* Petfinder.

- **Online dating:** A web app that uses AI to build a profile automatically from information on existing social media e.g. using Instagram, Tiktok, Twitter, Facebook APIs. Selects photos, etc. *Examples:* eharmony (<https://www.eharmony.co.uk>), Match.com, etc.
- **Final year project student / supervisor matcher (AI):** a A web app that where supervisors can upload project descriptions, students can “shop” for project ideas, express interest, arrange to meet with supervisors.

DA students

Challenge 1: Green Journey Application

Introduction and Context

As a professional services firm our environmental impact is small compared with many other industries. Our clients, our people and other stakeholders expect us to minimise our impact, and as a responsible business whose operations ultimately rely on natural resources, we want to do everything we can. So, becoming a low carbon and more circular business is an important element of our purpose.

The firm has implemented a wide-ranging program covering carbon emissions, waste, resource consumption, energy use and business travel, and we have seen great successes in reducing our environmental impact. We have seen real enthusiasm for this from our staff and partners, and they have asked us to help them reduce their individual environmental impact outside the firm as well as at work.

The Challenge

We would like to develop a system/app that helps our staff and partners make informed choices about their personal travel and which will reward them for selecting an environmentally-friendly method of travel.

PwC already has a system in place that awards “Gems”, which are points that can be converted into real-world benefits. You can refer to this system and “Gems” in your proposal when looking at incentives and rewards for choosing green travel options.

Here are some things that you might wish to consider:

- Relatively few people drive to our offices. Since the pandemic, many people also now work from home two or three days a week. This is now considered normal behaviour so should we reward this?
- Many people have few options other than driving when it comes to taking their children to school whilst others could walk or cycle. We would like to encourage everyone to
- For business travel to client sites, we cover individuals’ travel expenses and as a result people choose the most convenient method of travel. Can we encourage teams going to client sites to equally share the transport burden?
- Available data on rail travel, cycleways, bike hire schemes, as well as walking distances and weather conditions will all affect people’s travel decisions and much of this information is available via public APIs. Consider how you might present some of this information to a user who is considering a journey in their car.

Our staff and partners are great people and entirely trustworthy - worrying about whether they will “game the system” is out-of-scope for this challenge!

We don’t expect you to fully solve *all* of the issues above, but choose some scenarios, consider the use cases and come up with something that people can really use to lessen the environmental impact of their travel.

Challenge 2: Push Notification Platform

Introduction and Context

PwC has a “Daily News Alert” app which pushes news stories to staff at 9am each day. The app resides in the Windows System Tray and, when it activates, displays a small window in the bottom right hand corner of the screen.

This window shows a short summary of each news story, each of which leads to a web site or a Google Currents page giving more detail.

The Challenge

How might we provide an updated Daily News Alert App that is more flexible and interactive?

We’d like you to consider different ways that the user could be notified that new stories are available - some people may prefer a low-key “badge” style indicator, while others may be happy with something more intrusive.

This app is intended to drive users towards news about PwC that may be provided via a number of different internal services. The intention is not to replace these services - the app should still serve as an alert system - but we feel that our click-through rate could be raised from the current 30% average if the UI could be improved. Can you think of ways that we could deliver a platform that will allow the news service providers more options than just a single line of text?

We’d like to know more about what types of news stories interest our user community, whilst at the same time increasing the number of news stories per day. What features could we add that would help us achieve this?

In addition, we see an increasing move away from Windows PCs towards Apple hardware and software within PwC, so the new solution will need to work across multiple platforms - Windows / OS X / iOS. You should also take into account the fact that PwC predominantly uses Google Workspace productivity apps (Docs, Sheets, Slides etc), so much of our users’ day is spent working with the Chrome browser.

Challenge 3: Room Booking App

Introduction and Context

PwC is seeing greater demand for meeting rooms in its offices, and has identified a need to make it easier for staff to find and book the rooms they need. It has been agreed to build an application to trial in one of their offices, to test whether this would help manage the use of meeting rooms better.

The Challenge

A design workshop has taken place, bringing together representatives from the different groups of users - people wanting to book a room, and users who look after the room booking application.

During the workshop a number of important features have been identified by the group, and have been added to the backlog as user stories, with what the group think as the most important first.

You have now been approached by the product design team to help develop a minimal viable product based on this feature list. You only have one week, and won’t be able to complete all of the features.

List of user stories:

- As an app administrator I want to be able to create a list of rooms with a set of attributes (room name, capacity, has screen, has video calling capability, has audio calling capability, has white board) so that rooms will be available to book by users.
- As an app administrator I want to be able to add new users to the app so that users will have access to book a meeting room.
- As a user I want to be able to search for a room with specific attributes so that I can book a room

that is suitable for my needs.

- As a user I want to be able to create a new room booking so that I can reserve a room for use at a later point.
- As a user I want to be able to cancel a room booking so that I give others a chance to book a room I no longer need.
- As an app administrator I want to be able to see a list of all bookings on a given day so that I can understand how busy the meeting rooms are.
- As an administrator I want to be able to see all room bookings for a named user so that I can understand individual usage patterns.
- As a user I want to be able to add guests to my room booking so that I can feel organised (the number of guests must not be more than the capacity of the room).
- As an app administrator I want to be able to import a list of rooms and their attributes so that I can efficiently provide the user with meeting rooms to book.
- As an app administrator I want to be able to import a list of users so that I can efficiently provide access to the app to a number of users at a time.
- As a user I want to be able to easily use the application so that I can quickly manage my room bookings.

Challenge 4: Green Business Case app

Introduction and Context

When submitting a bid to the UK government on behalf of a client (e.g. to build a new motorway), PwC needs to complete a form to build a business case. This is often a complex form that requires input from various teams. e.g. 'x' team must fill in section "2)a, paragraph 3". It can be difficult to keep track of who's responsible for various tasks, which tasks are outstanding, and whether the information given meets the government guidelines provided.

The challenge

- How might you create an app or web application to make this a more user friendly experience?
- How can you be confident that all parts of the form have been completed?
- How could you build in deadlines to ensure there is enough time for draft responses to be both given, checked and signed off by senior staff at PwC?
- How will the design ensure all teams can communicate with one another when necessary, e.g. add comments, raise questions, etc?
- How do you ensure data is protected when information shared is often confidential?

Challenge 5: Multi Project Resourcing

Introduction and Context Across some large teams at PwC, there is a need to be able to identify junior staff who may be available that same day to support with quick turn-around projects/tasks. The challenge is that there is often no way of knowing who might be available to take on these tasks, and who might have the skills to support the right type of task. Often, a manager may end up asking the nearest person sitting next to them to support with a piece of work, without full oversight of the whole teams' workload, skills or interests. Ultimately, this would be a matching tool to enable managers to better allocate work across the whole team, in a more efficient and fair way.

The challenge

- Can you design an app or web application that would create greater visibility for all workers within a team, enabling juniors who have capacity/interest to sign up to tasks on a daily basis.
- You'd need to consider the design so that its easy for a user to identify shorter vs longer tasks, and skills required.
- Consider how you could measure the success of this app? (e.g. tracking how often its used, by who etc)
- Could it be used as a way for juniors to gain experience in teams outside of their own?
- In the future, consider how automation could play a role here? e.g. Is there a way for tasks to be automatically assigned rather than a self-service? What would the pros and cons be of this?