

H1 American Express Challenge 2020

| Proudly organised and presented by the **UCL Data Science Society**

H2 Author

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H2 Schedule

17 August ~ 6 September

H2 Theme

Teams will choose from one of the following themes for their project:

1. **Supporting American Express's travel business** (E.g. better, more relevant deals with travel partners)
 1. *Possible Solution A* : a travel dashboard using data from Lonely Planet for American Express so that American Express can leverage the data to customise their deals better to benefit both their partner and their customers
 2. *Possible Solution B* : Analysing a list of top locations from Lonely Planet E.g. more streamlined ways of showing travel offers Solution: a chatbot with the consumers to assist people with coming up with their travel plans, by showing them current / future travel deals American Express currently has with their partners
2. **Supporting American Express's partnerships with small businesses** (E.g. tailoring partnerships to consumer spending habits)
 - *Possible Solution* : Coming up with an algorithm to sort current offers with merchants by relevance to the consumer
3. **Support American Express's user security** (E.g. More intuitive logging in approach, including various authentication techniques.)
 - *Possible Solution* : Students will come up with a better link to Apple ID biometric system to log in to the user interface.
4. **Any FinTech** related technical solutions that the teams would like to implement.

The teams are expected to implement a *Proof of Concept* or *Technical Deliverable* (a *Working Prototype*) of that particular solution. There are no designated APIs or technologies required in the solutions. Use any that you are comfortable with!

H2 Challenges and Prizes

There are **four** challenges apart from **the Grand Prize** of the hack that each team can apply to:

- *Best UI Design*
- *Best Hardware Hack*

- *Best Data Science Solution*
- *Best Business Solution*

There will be **one** winner from each challenge. There is no upper limit for the number of applicants accepted to a challenge. The number of applicants to the challenges will be published to all to promote teams to apply to those challenges with fewer competitors.

Each winning **team** of a challenge will be awarded £100 amazon voucher. The winning team of the **Grand Prize** will be awarded **fast-track** to the 2021 American Express career opportunities.

H3 Best UI Design

The user interface design that delivers the best user experiences and the most favourable visual presentation of the content, for examples:

- colour scheme
- compatibility of devices
- user interaction
- user journey

H3 Best Hardware Hack

The best **hardware prototype** that implements a *FinTech* solution. Recommended devices/platforms include:

- Raspberry Pi
- Arduino Boards
- PCB
- ESP Boards
- Android Phones

Note that: the Hackathon Committee is not able to provide any hardware or devices to the players

H3 Best Data Science Solution

A **technical solution** implemented with data science techniques that shows high business value, reasonable encapsulation, easy-to-use, robust performances, plausible scalability and so on.

Note that: there is no designated datasets to be used. If one is needed, players are recommended to use the open-sourced datasets like those on [Kaggle](#). If fake data feed is needed, libraries like [Python Faker](#) is also recommended.

H3 Best Business Solution

A **solution, proposal, or business initiative** that presents high business value. No technical deliverable is needed for this challenge.

H3 The Grand Prize

The committee will assess all solutions regardless of the challenges applied to and select 5 teams as finalists (or 3, depending on the number of teams). The finalists get to present to AMEX on 14 September to compete for the **Grand Prize** of Hackathon.

Note that: a Grand Prize winner **does not** have to be neither a winner nor runner up in other challenges.

H2 Logistics

H3 Size of a Team

A maximum of 4 players on a team. Individual players are welcomed and there will be team-forming sessions

H3 Communication

- Hackathon updates and submission links will be sent out via [Facebook Page](#) and email.
- The committee has created a *Slack* channel for mentorship, help, and hackathon Q&A's. Join the [Slack channel](#)
- Video conferencing for presentations and events will be conducted on *Webex Meetings* . Meeting links will be sent out closer to the respective dates.

H3 Mentorship

The *Science* team and some society members from the committee will work as the mentor team to the players. The mentor team is an on-demand specialist team that usually operates at the **mentorship/help desk** channel for quick Q&A, tips, inspiration or consultancy. If a team requires extra help in a particular area (technical or non-technical), a mentor will be assigned to that team temporarily.

The mentors are expected to provide assistance in the high-level concepts/structure of solutions, rather than the low-level implementations. Mentorship team is not a *debugging hotline*

H2 Virtual Events

- We will be hosting a **virtual career event** with **American Express** on 2nd September! More information will be sent out closer to the date.
- The Science Division may host workshops on an as-need basis. Schedule TBD.

H2 Submission

There will be a few deadlines for the teams to submit products based on an Agile approach. The deadlines are not mandatory but a way to motivate the teams to exercise good project management practice and Agile development methodology, making sure an MVP ("**Minimal Viable Product**") is available and updated regularly and ensuring the committee members and mentors to be familiar with their projects. DDLs include:

Product	Deadline
Project Proposal	19 August
Product Commits	20 August ~ 6 September
Presentation Slides Final Draft and Product Final	

Commit	5 September
Presentations	6 September

Upon the end of the hack, each team is expected to submit:

- Project proposal:
 1. Selected theme and challenge
 2. What the project is
 3. Rationale behind the project
 4. Technical stack (if applicable)
- Code base to the project (for technical solutions) **OR** their business proposal/initiative (for business solutions)
- Pitching slides and presentation

H3 Commits and Code Base

The code must be managed by *Git* and hosted on *GitHub* as a **public** repository. The players get to choose to be licensed under whichever protocol and choose if they want to be licensed or not.

The developers are expected to follow the [Semantic Versioning](#) convention and [Git branching strategy](#).

The **latest release** of that repository will be consider as the final submission on 5 September

The developers are expected to create and manage [releases](#) on GitHub

H3 README

Each repository should come with a `README.md` that states the details, environment, **quick-start guide** and information of this such.

H3 `.gitignore`

- Ignore production environment settings (`.vscode` or `.idea`)
- Ignore compiled code/cache for interpretation-based language (e.g. `.pyc` for *Python*)
- Ignore `node_modules/`
- Ignore OS-related config (`.DS_Store`)
- Ignore sensitive information(e.g. private keys, database/API credentials, tokens)
- Ignore anything unnecessary for using the technical deliverables

H3 Technology

The players can claim the *GitHub* student pack to get free access to many paid features. Apart from that, the committee will not be able to provide any technological resources(like databases, servers, domain names). Please feel free to reach out the mentorship team for advice on the technical stack.

`github.io` is recommended as a domain name service

H2 Judging

The applications to the four *challenges* will be judged by **the committee** from the **UCL Data Science Society**, in which the winner of each challenge will be announced. The **committee** will also select **3** teams as **finalists**. The finalists will *present* to the **American Express representatives** to run for the *Grand Prize*.