

## **Team DataBaes Stage 1: Faculty Abroad Connect**

### ***1. Describe what data is stored in the database. (Where is the data from, and what attributes and information would be stored?)***

Since our project will be a website that shows study abroad opportunities for faculty at UIUC, at a minimum, it should have the following data:

- a. Study abroad opportunities, with each individual program identified by a ProgramId. This will be a primary key.
- b. Cities, countries, regions that the program belongs to.
- c. Departments (CS, ECE, Dance Theory, etc), term (Spring, Summer, Full Year, etc).
- d. Housing types provided or available.
- e. Other, unique identifiers such as belonging to a special club/ organization, unique requirements.

The above should be arranged into multiple tables with a schema that is easily searchable, and capable of returning sorted results. Optionally, we can include extra data, like the following:

- a. Faculty profiles for those who will or have already led study abroad programs. Denoted by Faculty Ids, which will be a primary key.
- b. Country/ city profiles with CountryId/ CityId primary keys.
- c. University partnerships, with UniversityId and PartnershipId primary keys.

### ***2. What are the basic functions of your web application? (What can users of this website do? Which simple and complex features are there?)***

At a minimum, users should be able to:

- a. Create program pages for study abroad programs. Each program page will have required information about the program, as well as links to external university/ city/ country/ faculty information.
- b. Read/ Update programs.
- c. Delete programs.
- d. Search for study abroad programs based on a variety of criteria (country/ city/ program length, etc).

Optionally, we could add the following additional features:

- a. View pages for city, country, faculty, university, partnership programs, etc.
- b. Alternate types of search (Ex: select country/ city from world map).
- c. Ability for certain users to delete programs.
- d. Allow UIUC students to apply for faculty-lead programs, through the UIUC study abroad portal.

**3. *What would be a good creative component (function) that can improve the functionality of your application? (What is something cool that you want to include? How are you planning to achieve it?)***

- a. Recommender algorithm that recommends removal or expansion of programs in specific countries, cities, and majors/departments based on their popularity.
- b. Recommender algorithm that recommends different tourist and cultural attractions of the country where the work abroad program is being held
- c. Given one of the purposes of the website is to connect faculty and disadvantaged students, the website could spotlight different talented students or student projects from around the world to make faculty aware of the opportunities in a news slideshow feature.
- d. A Hackathon generator/scheduler for faculty which could help faculty to plan and execute hackathons for the students that can be created as a separate app which accepts date, time, and other preference parameters.
- e. An online forum section or web posting submission feature where students from across the world are free to convey or elaborate on any information they have on the programs their school offers along with expressing any thoughts or desires they have for the study abroad program for faculty.

**4. *Project Title***

Faculty Abroad Connect

**5. *Project Summary: It should be a 1-2 paragraph description of what your project is.***

Faculty Abroad Connect is a web application which enables UIUC faculty to create a variety of Study and Research Abroad opportunities worldwide. The UIUC faculty is composed of a number of talented scholars and professionals who have already had a positive impact in their respective fields and this web application will enable them to connect with different institutions, universities, and students from abroad. With web pages that will allow faculty to survey and create opportunities abroad, they can connect with different institutions, explore their professions, and help advance the scientific condition of the world through their passions.

In terms of functionality, the web pages showcasing the different programs abroad will also have an application submission feature to enable faculty and foreign students to apply and create their desired programs and will be supported by a database with information about all of the programs such as city, department, housing, and term. Aside from this basic functionality, the application will have a slideshow feature which will feature students and programs from all around the world for faculty to consider and also have a recommendation algorithm which can take program preferences and suggest opportunities abroad which faculty might find an interest in. Additionally, users not from the faculty such as external institutions or students from abroad will be able to reach out to UIUC faculty members who are looking for opportunities and express their interest through a web forum connected to the web application to truly enhance the connectivity between the faculty and the rest of the world.

**6. *Description of an application of your choice. State as clearly as possible what you want to do. What problem do you want to solve, etc.?***

University of Illinois faculty members do not have a centralized website to learn about potential study abroad opportunities that they can create. There are many opportunities for faculty members to offer programs in other learning environments outside of the University of Illinois. These opportunities provide life-changing opportunities for faculty to teach in a new country and experience a new culture while also impacting the lives of foreign students. The Faculty Abroad Connect web application will attempt to fill the information void and serve as a platform for faculty to connect with and discover study abroad programs.

On the Faculty Abroad website, faculty will be able to browse through blog posts, understand requirements and financial aid available to them, and search for potential programs of interest. First, the web application will feature a diverse selection of blog posts highlighting the experience of previous faculty and students. It's important for faculty to hear about the experiences from both sides of the classroom in order to understand the impact their involvement will have. Additionally, one of the main barriers to students and faculty creating programs is understanding of the requirements as well as financial aid opportunities available to faculty. Lastly, we hope to make it as easy as possible for faculty to find and connect with the right opportunities for them. It's often difficult to discover locations or students that might fit the exact wants and needs of a faculty member. We hope to create a search feature which will remove barriers to discovering these opportunities.

**7. *Usefulness. Explain as clearly as possible why your chosen application is useful. Make sure to answer the following questions: Are there any similar websites/applications out there? If so, what are they, and how is yours different?***

Faculty Abroad Connect web application is useful because it will directly inform faculty members with abroad opportunities that they could create and empower them with resources to make it possible. Many faculty members might be interested in teaching courses abroad, but do not know the opportunities available to them. As explained in previous sections, our application hopes to solve this problem by providing a variety of functionality to faculty, including: blog posts from previous faculty and students abroad, information on requirements, deadlines, and financial aid, and a robust search feature to connect faculty to their desired programs. All this functionality will fill the gap in information to faculty about study abroad opportunities.

Currently, there are various resources available which have tangential information, but nothing that addresses this problem directly for University of Illinois faculty. For instance, the university and the Grainger College of Engineering both provide information on study abroad programs. This information can be leveraged by educators to understand the types of programs offered, however they are mainly catered towards students:

- Grainger Study Abroad Information: <https://students.grainger.illinois.edu/ipeng/home/>
- General Study Abroad Information: <https://studyabroad.illinois.edu/>

Additionally, there is information available to faculty member's interested in starting an abroad program, but it is not University of Illinois specific. AIFS partners with faculty members from educational institutions to plan study abroad programs. Illinois faculty members might find this resource incredibly helpful, however, there are likely Illinois specific questions they might have around requirements and experiences of faculty co-workers.

- AIFS Customized Faculty-Led Programs:

<https://www.aifsabroad.com/customized-faculty-led/>

Our web application will cater to both Illinois-specific study abroad information like what is currently available on student websites and the faculty-specific logistical information that is available through AIFS.

**8. *Realness. Describe what your data is and where you will get it.***

- Static Data:
  - Links to other sites (see above)
  - General Information

This will be obtained from the plethora of links defined above and with consulting faculty.

- Past Study Abroad Programs:
  - Location/s
    - Country
    - City
    - Other metadata (Residence/School/Images)
    - Flags for (climate, altitude, native language)
  - Activities
    - A description, max 200 words. With Images
    - Flags for (Ice Skating, Yummy food...)
  - Time Frame
    - Day/month/year - day/month/year
    - Category: (Weeks/Months/Semester/Year)
  - Lead Professors/Faculty
    - This includes their profile with Image that will be created
  - The students that attended
    - Student Metadata
  - Comment section
    - Starts off blank

The project was proposed by Professor Abdu. We will consult with him to obtain past access to Study abroad programs, both current and past. This will most likely come from StudyAbroad.illinois backend. Worst case scenario, faculty that led Study abroad programs can input Programs manually into the system.

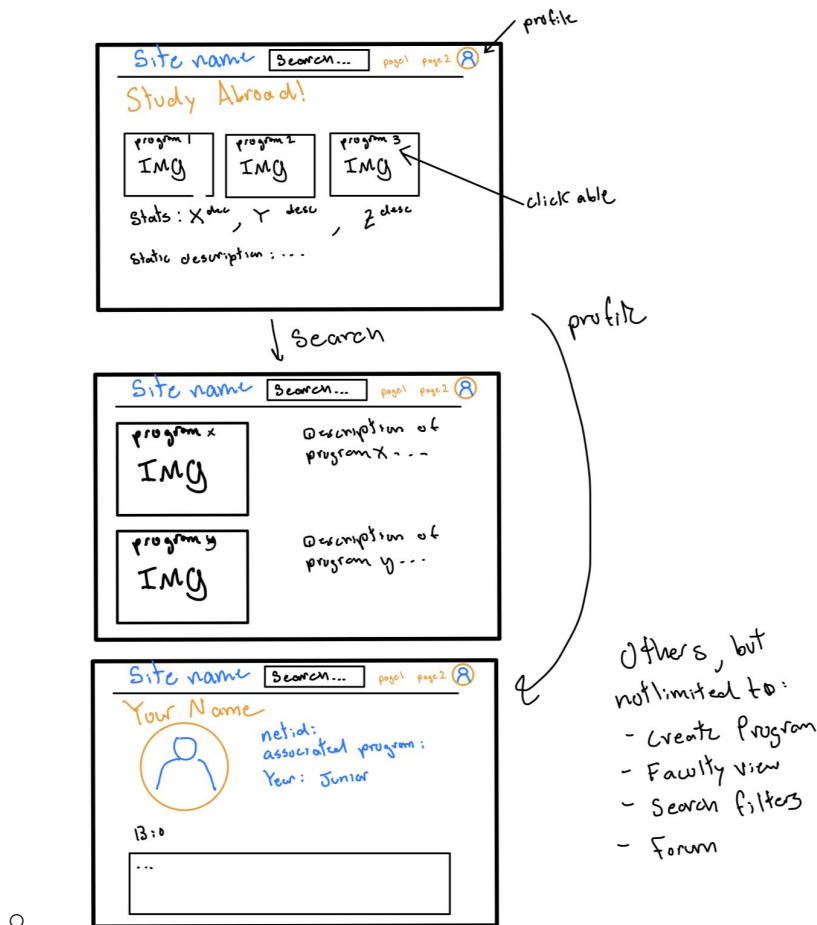
Data Types:

In general, the static data stored will likely be embedded with the HTML/JS. However, core functionally like searching and CRUD operations will need to be supported with a relational database. Because the data ranges from Strings to Images, it may be wise to split the data up into different relation tables for quick querying. The exact database we plan to use is undetermined at this point.

***9. Description of the functionality that your website offers. This is where you talk about what the website delivers. Talk about how a user would interact with the application (i.e., things that one could create, delete, update, or search for). Read the requirements for stage 4 to see what other functionalities you want to provide to the users. You should include:***

Our web application will offer a wide range of functionalities for our users. Users will be able to create, update, and delete user profiles, including first name, last name, home university, and areas of interest. Additionally, users who have previously taught abroad will be able to create, update, and delete their experiences, including creating a blog post which will be featured on the web application. These experiences will include a variety of information provided by the user including their housing accommodations, the course they taught, the location of their travels, and the year and semester they taught in. The wide variety of experiences shared on the site will allow for a database of experiences and programs which can be searched. There will be search functionality included in the website so that users can search through previous programs and potential upcoming programs that they might be interested in applying for.

- A low-fidelity UI mockup:



- Project work distribution:

- General

- Work will be distributed evenly across the project. We will adopt an Agile methodology to keep us on track and pushing code. This includes working in bursts, with deliverables at the end of every stage (every ~2 weeks.) We will measure everyone's contributions through our repository, through pushes and code reviews. Every line of code that will end up in production, must have been viewed by at least one other team member during a code review.

- Backend Systems

- Since we want everyone in the project to have a meaningful contribution on both the Front and Backend of the application, it will be required that at least one contribution and one code review be made by each team member for the backend.

- Advanced Search

- This includes querying our database and returning:
  - A profile
  - A set of Programs based on feature:
    - Location
    - Climate
    - Duration
- There are many search queries to write therefore each person must contribute to the backend by either:
  - Setting up infrastructure
  - Creating Relational Schema
  - Writing SQL Queries
- Front End
  - The same applies to the front end. Members are required to contribute to the front end by at least one of the following:
    - Javascript Logic
    - Javascript Layout (pages, Profile, Post, Update/Delete)
    - Javascript components (buttons)
    - UI design