Criterion A

Scenario

In the first semester of senior year/grade 12 (August to December), on top of academics and assignments, students start to plan their future after graduation. Most students wish to go to university, some take a gap year & some enlist for compulsory National Service. University applications begin & each student receives aid from their assigned academic advisor/counselor (AA), who is my intended client.

My client is an AA and was a former IB Economics teacher, Mr. Gareth Wailes. He does find the process, calculations & tracking systems tedious to use, with 47 students in grade 12 to advise and overall 204 in high school [1]. The current university tracking system is an online database service called Bridge-U. This system is useful in several aspects such as choosing universities and sending documentation via this system. However, there are plenty of untouched features that the school does not need such as Writing Builder, Strategy Advisor & Careers, which comes with an additional fee. Bridge-U has a Profile Builder which includes inputting grades which then is used for university predictions -- reach, match & safety.

Though, this platform often gives invalid predictions, and thus I wish to state the average grades(or min, max, 25th percentile, 75th percentile) for universities, but not predict since it misleads students, & AAs.

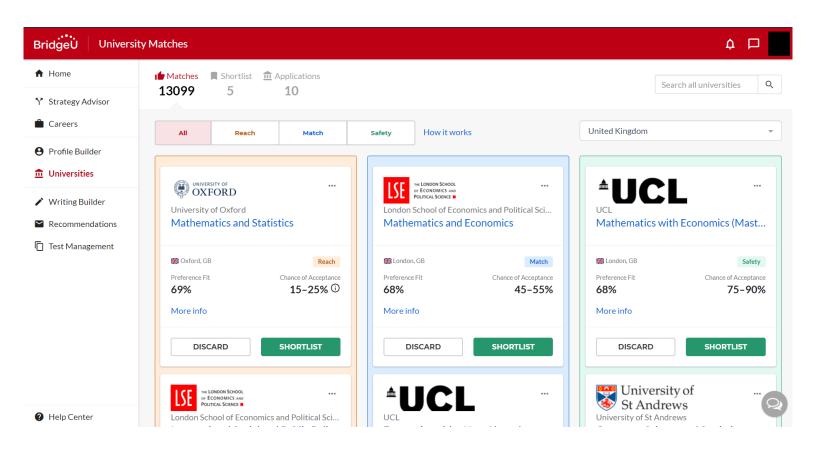My aim is to design a university, & grade, based system in Java that suits the needs of my school, making it easier & more accurate for AAs to smoothly track applications, & aid both Students & AAs in the process. Below are images of current system used.
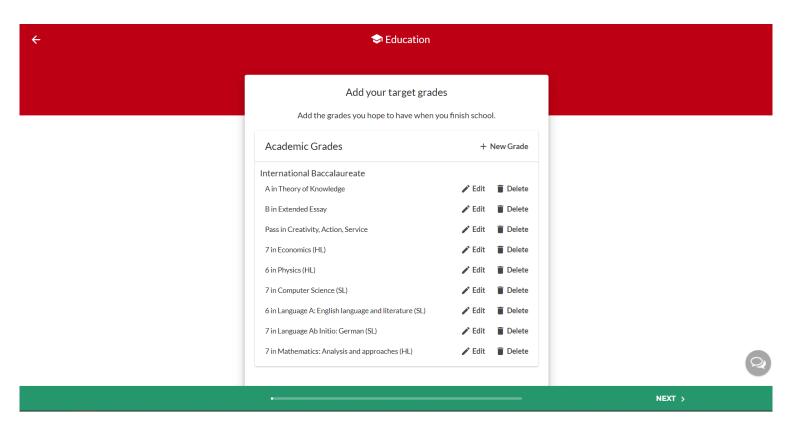
Word Count: 249

---

[1] Wailes, Gareth 2020

🏠 Home

🌱 Strategy Advisor

💼 Careers

👤 Profile Builder

🏛 **Universities**

✏️ Writing Builder

✉️ Recommendations

🗐 Test Management

❓ Help Center

👍 **Matches**
13099

🔖 Shortlist
5

🏛 Applications
10

Search all universities 🔍

| All | Reach | Match | Safety | How it works |

United Kingdom ▼

UNIVERSITY OF OXFORD ⋯
University of Oxford
Mathematics and Statistics

🇬🇧 Oxford, GB | Reach
Preference Fit | Chance of Acceptance
69% | **15–25%** ⓘ
More info

DISCARD | SHORTLIST

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE ⋯
London School of Economics and Political Sci...
Mathematics and Economics

🇬🇧 London, GB | Match
Preference Fit | Chance of Acceptance
68% | **45–55%**
More info

DISCARD | SHORTLIST

UCL ⋯
UCL
Mathematics with Economics (Mast...

🇬🇧 London, GB | Safety
Preference Fit | Chance of Acceptance
68% | **75–90%**
More info

DISCARD | SHORTLIST

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE ⋯
London School of Economics and Political Sci...

UCL ⋯
UCL

University of St Andrews ⋯
University of St Andrews

← 🎓 Education

Add your target grades

Add the grades you hope to have when you finish school.

| Academic Grades | + New Grade |

International Baccalaureate

A in Theory of Knowledge	✏️ Edit	🗑 Delete
B in Extended Essay	✏️ Edit	🗑 Delete
Pass in Creativity, Action, Service	✏️ Edit	🗑 Delete
7 in Economics (HL)	✏️ Edit	🗑 Delete
6 in Physics (HL)	✏️ Edit	🗑 Delete
7 in Computer Science (SL)	✏️ Edit	🗑 Delete
6 in Language A: English language and literature (SL)	✏️ Edit	🗑 Delete
7 in Language Ab Initio: German (SL)	✏️ Edit	🗑 Delete
7 in Mathematics: Analysis and approaches (HL)	✏️ Edit	🗑 Delete

NEXT ›

Hi⬛,

Just saw your email. Thanks for reaching to try and help the school and the AAs by proposing a university management-type system. As you know during the first semester, students have a lot on their plate with IAs and university applications, excluding those doing military service. The AAs try to be as helpful as possible, through the use of Bridge-U: a paid subscription that allows us to overlook your process, universities and progress and help us send required documents to universities.

As years keep passing, we do have complications with this process especially, tracking and managing applications and useful information about university processes. I especially like your "GUI" ideas, that give a quick solution and allow both AAs and students to easily access information through an appealing window. This could act as the permanent system that allows management and information display. Bridge-U will continue to act as our document sending since it is official.

This product would be very helpful for grade 11s to get a feel of the university process. Of course I'm not much of a tech person, so you will manage that. For your question of how many students I'm managing now: it is 204 currently in high school.
We can have more meetings like the one we had yesterday to see how the product is progressing and if I can give some feasible ideas within your technical capabilities

Regards
Mr. Wailes

Proposed Product

The proposed product to the above scenario will be an OOP based program with a user-friendly menu-driven user interface for AAs & students to track university applications along with grades. The program may also feature graphical user interfaces to aid navigating & display information. Students should be able to track progress of their university choices, applications & grades.

I plan to not only create a interface to track, add & edit university applications but also a way to display user-inputted values for subjects, teachers, etc. I plan to display GUIs to efficiently display universities, information/FAQ & to enter grades since my client is not 'technology-gifted' & thus a GUI may suit him better than command line interface, with large amounts of information. The program will provide a thorough explanation & guide to university applications, with help of GUIs also.

AAs will have administrative power which will allow them to alter aspects such as grades, recommendations & other information.

This code will be written in Java using Eclipse or NetBeans IDE due to several reasons. I've known Java for more than 2 years & am comfortable with using it. Since it is completely free, costs can be reduced if system is switched. Software like NetBeans/Eclipse makes development & documentation easier through debugging & diagram creation. Being cross-platform allows it to work on any operating system.

Software & hardware used:

- Developer (Me)Windows Laptop - Microsoft Windows 10 Home
- Client MacBook Pro - macOS Catalina
- Apache NetBeans IDE 12.2
- Eclipse 2020-12(for verification it works on other platforms)
- Java JDK 15.0.2

Word Count: 250

Success Criteria

1. System should accomplish main objectives of:

    a. Storing grades, university choices and applications

    b. Displaying information about universities and processes

    c. Inputting/Editing information about universities -- location/country, name, application date, method, etc

2. System should feature a secure log in page/menu which will redirect to a separate page depending whether user is AA or student

3. System's login page should store/save login details

4. System should allow AA to create and assign student accounts

5. System should prompt users for a profile setup

6. System should allow inputting values, notices/messages and documentation

7. System should allow deleting, editing and changing grades, documentation (AAs only), choices, profile (students only), etc

8. System should have data verification and validation and prohibit input of invalid data (for appropriate fields). E.g, only numerical data for grades in specific range (range check, type check)

9. System should have GUI(s) to support easier navigation, readability and functionality

10. System should have a section where student can input self-reported testing.

11. System should have a 'Review' page where every component can be viewed, for AAs and students.

12. System should contain error messages, warning and exceptions.

13. System should allow AAs to search students by index and/or by name

14. System can allow comments or communication between teachers/AAs and/or student

15. System (code including build files, .txt, etc) should not be more than 5 MB