

Automating the Import of Qualifications for HESA Compliance

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1) Problem Context

UK Universities are required to record student qualifications using standardised UCAS qualification types and subject codes. Sometimes this has to be done manually, which is a time consuming task and presents a persistent source of data quality risk.

2) Research Aim

To investigate how API-driven automation of qualification data retrieval can improve data quality, reduce administrative workload, and enhance regulatory compliance in UK higher education student records systems.

3) Literature

267 Students

miscoded in one institution, leading to them being classed as worst performing [1]

21.15% 45.45%

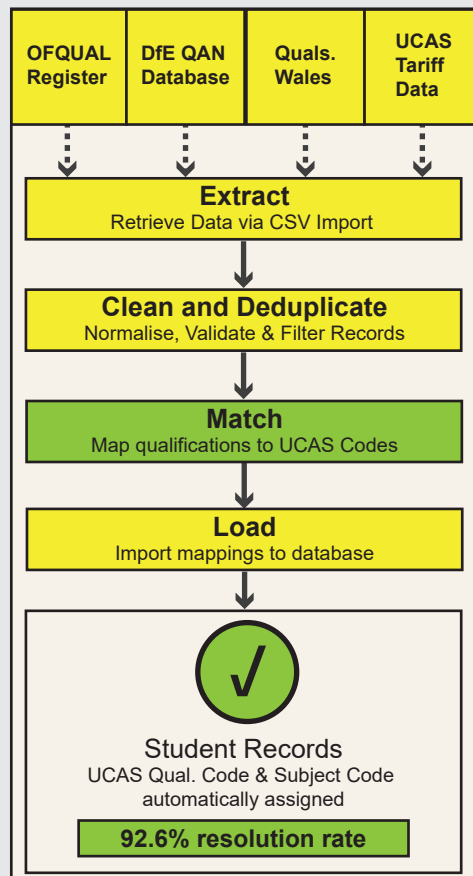
of completeness and accuracy business rules are satisfied within higher education [2]

90%

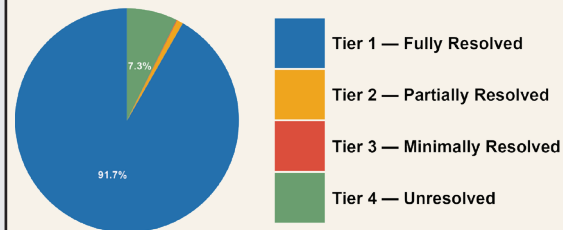
of UK entrants are covered by UCAS, but leaves non-UCAS applicants requiring manual verification [3]

4) Methods

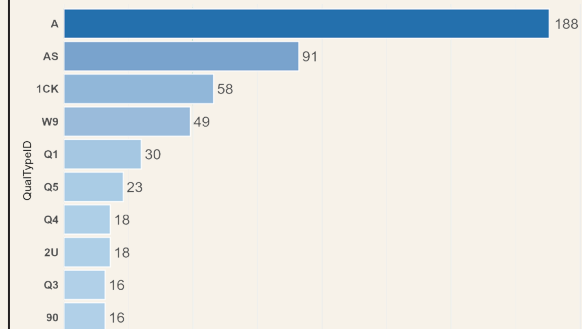
- Built in C# .NET 8
- Aiming for a minimum of 80% qualification resolving
- Agile scrumban
- Pragmatist / deductive philosophy



4) Results



Tier 1: Qualification, Subject, Year and Grade
Tier 2: Qualification, Subject, Year or Grade: 0.9%
Tier 3: Qualification and Subject: 0.1%
Tier 4: None resolved: 7.3%



A & AS Levels Highest resolved: 259 Total
Welsh Bacc Highly Resolved: 197 Total
BTECs Highly Resolved: 89 Total

5) Conclusion

- Exceeded 80% mapping accuracy target by 12.6-12.7 percentage points.
- Requirements engineering fully completed.
- Functional coverage at 69.5%, remaining components awaiting organisational approval.
- Pipeline validated as viable with API integration remaining the priority.
- Delivers workload reduction, auditability and visibility.

6) References

- [1] D. Draper and M. Gittoes, 'Statistical analysis of performance indicators in UK higher education', Journal of the Royal Statistical Society: Series A (Statistics in Society), vol. 167, no. 3, pp. 449–474, 2004, doi: <https://doi.org/10.1111/j.1467-985X.2004.apm12.x>.
- [2] W. Wijayanti, A. Hidayanto, N. Wilantika, I. R. Adawati, and S. Yudhoatmojo, 'Data Quality Assessment on Higher Education: A Case Study of Institute of Statistics', Nov. 2018, pp. 231–236. doi: 10.1109/ISRITI.2018.8864476.
- [3] P. Bolton, 'Higher education student numbers', Feb. 2026. Available: <https://commonslibrary.parliament.uk/research-briefings/cbp-7857/>