ANU John Eccles Institute Project:
An automated and user-friendly system for collecting, demonstrating, and promoting upcoming seminars, talks, and lectures at ANU

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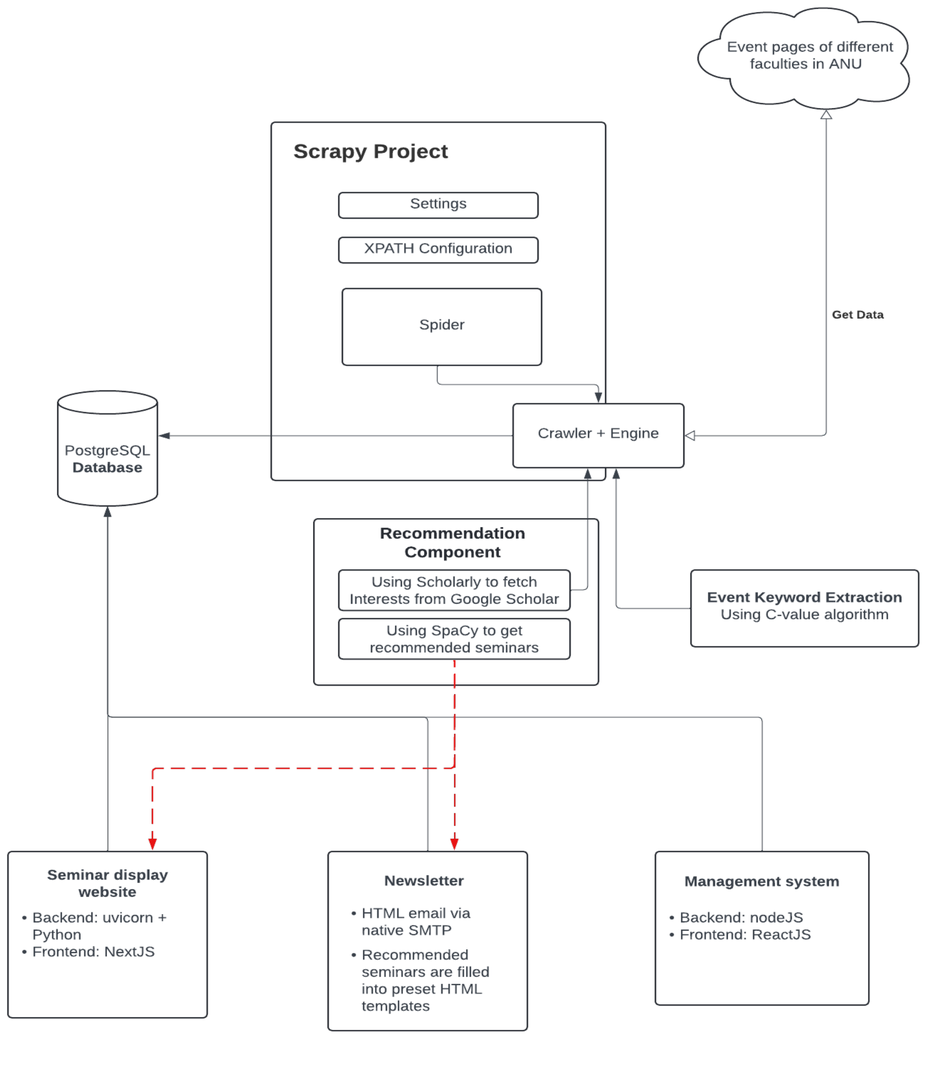
Browsing through each college's event webpages to discover seminars that may be of interest takes a huge time. This system has been developed to give academics, students, and other audiences an easy and effortless access to seminar announcements. It collects upcoming seminars from many ANU colleges and provides a website to display and search them. Subscribers can also receive customised seminars newsletters based on their interests. Finally, administrators are supported by an easy-to-use system to facilitate managing communications and subscriptions.

Background:

The project is an individual postgraduate project for The ANU Eccles Institute of Neuroscience. Neuroscience tends to be transdisciplinary, ranging from medicine, psychology, and biology to music, law, and computing. Therefore, seminars related to neuroscience held by other faculties should be shown on the website. The neuroscience departments at other world's leading universities like Cambridge University have similar websites and systems.

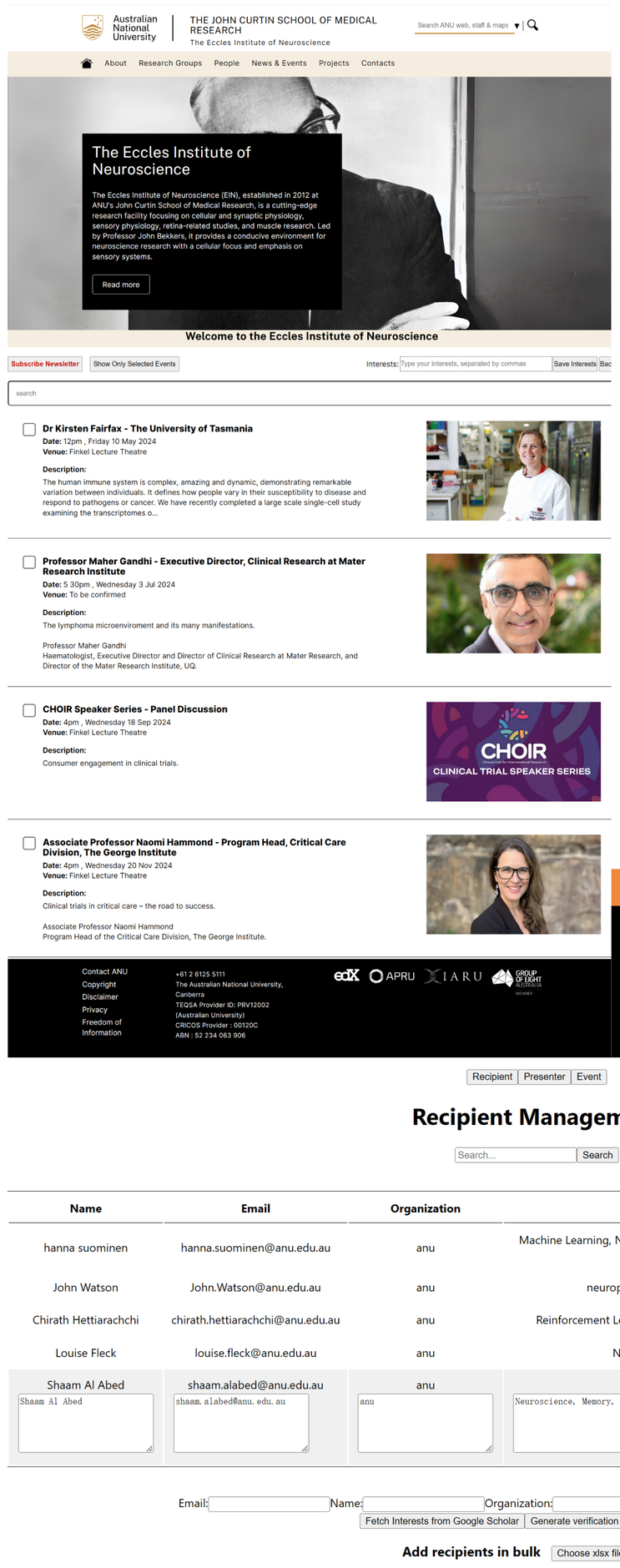
Method:

- ***Scrapy*** crawling framework was used to regularly crawl assigned websites, then processing and storing seminars details into a ***Postgres*** database.
- ***Scholarly*** was used to fetch seminars speakers' research interests from Google Scholar.
- ***SpaCy*** and its build-in NLP word-to-vector models were used to calculate similarity between user interests and event keywords, then filtered out recommended seminars.



Result:

Figure. (1) Seminars display website, (2) Weekly recommendations email, (3) Administrative management system.



Evaluation:

- When determining recommended seminars, a threshold value is required. After evaluation by supervisors and clients, 0.725 was confirmed as the final threshold.
- In the meetings with clients, they expressed their endorsement of the effectiveness, usability, and aesthetics of the systems.

Conclusion:

The project addressed the problem of academics interested in neuroscience spending much time looking for seminars of interest. The systems provided a high degree of automation and an effective administrative tool.

Future Work:

- The robustness of information extraction could be enhanced by adding more hierarchical natural language processing algorithms used in the newspaper3k library to the XPATH extraction method.
- Further engineering work could be conducted to avoid service interruptions in fetching subscribers/recipients' research interests from Google Scholar in bulk.

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