# Artefact Agreement

# *Preferencing System*

### Team Details

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### Project Details

| Project ID | P062 |
| --- | --- |
| Project Title | Preferencing System |
| Industry Partner | QUT School of Computer Science |
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### Tutor Details

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## Project definition

Our team was tasked to explore new and better methods of collecting student preference data for the QUT IFB398 Capstone teaching team. Our industry partner has expressed interest in improving the teaching team’s capabilities to deliver timely and effective outcomes, reduce manual workloads in cumbersome systems, and enable transformative learning experiences for students.

The direction of this project has shifted multiple times, mainly due to new approaches being discovered that revealed more benefits. The original platform used, Google Forms, proved to be functional, yet limiting in some ways. To address problems such as data/submission validation, preference distribution, ease of use, and a cumbersome interface, we moved the system to a new platform; Google AppScript. This move allows us to create a web application on top of a Google sheet, which builds off what the teaching team has already been using.

The aim of the project was to identify key factors in how to make the teaching team’s preference system better. To do this, an experiment to compare different preference models, that are built as webapps using differing systems, will provide insight into key areas of improvement, and provide new approaches for the teaching team to conduct Capstone preferencing.

## Project goals

Below are the project goals, split into three categories; Base, Enhanced, and Stretch.

| **Base goal** |
| --- |
| Three prototype preference systems:   1. Remade Preference System   (reimplementing the teaching team’s system on a new platform)   1. Apportionment Preference System 2. Positive/Negative Preference System   Documentation and codebase (for each system respectively) |
| **Enhanced Goal** |
| Preliminary User Testing  Preliminary User Test Analysis report  Draft Experiment Plan |
| **Stretch Goal** |
| Finalised Experiment plan  Conducting a User Experiment  Experiment Analysis report |

## Deliverables Details

*Base*

### Prototype preference systems

All three systems are made using AppScript (frontend and backend) on top of a Google Sheet (database).

#### Remade Preference System

This system uses the preference model the teaching team originally used. A one to seven scale to express the level of preference from low to high (on each available item for selection).

#### Apportionment Preference System

This system makes users portion out a total amongst the items they prefer.

#### Positive/Negative Preference System

This system also uses the one to seven scale, but users can only make a limited number of positive and negative preferences on items (negative is -7 to -1).

### Documentation and codebase

Each system requires its own documentation on how it was made, how to use it, troubleshooting, and limitations (user manuals). The code base for each system will also be provided, although they have similarities. The documentation will also explain the differences and what the code does (technical specification sheets), and how to get it running (Installation guides).

*Enhanced*

### Preliminary User Testing

To assist with preparing and writing a user experiment, preliminary testing must be undertaken to identify key factors with user experience and system effectiveness (in relation to the project’s objectives). It will consist of a smaller selection of participants, with a feedback mechanism for users to elaborate on their experience from using each preference system.

### Preliminary User Test Analysis report

Following the conclusion of the preliminary test, analysis of the data and feedback will produce a report to provide more guidance in producing a user experiment. Identifying areas for improvement and receiving criticism from users provides more clear direction, for continuing development and constructing the experiment plan.

### Draft Experiment Plan

A user experiment was planned to succeed the preliminary user test, more formalised with established baselines and variables, developed with insights from the prior testing. Though it being a draft, there is room for change.

*Stretch*

### Experiment plan

The experiment plan will consist of three developed preference systems, where participants will use each system, and provide feedback via a response form. The experiment will have more participants than the preliminary test and be more orientated to finding a particular outcome.

### Experiment Analysis report

Following the conclusion of the experiment, an analysis report will explain the results and provide recommendations and other potential directions the teaching team could conduct future Capstone preferencing.

## Planning

The project was planned and managed using the agile methodology. The team project planning document can be found [here](https://docs.google.com/document/d/16MKNm92G1fafZXhFKlLx1zR4YnIalI-x9MrCFYCUcXI). The sprint plan (see Table 1 in Appendix) for the progress of the project contains the milestones needed to fulfill requirements laid out. Our meetings with our Industry Partner provided valuable feedback and direction in order to produce a quality product, the meeting notes can be found [here](https://docs.google.com/document/d/1VhmrKe69QcEpbqGCONB9m4yV9mXi7f1HaRaQaFzjaYo).

[User stories](https://docs.google.com/spreadsheets/d/19oiGUZrEcXC3BCOtXjA9A9q6TJJitOunGdnHlrgFzqc/edit?usp=sharing) previously developed in IFB398 and new iterations were used to design the interfaces and functionality of the prototype preference systems. Though not all stories were able to be adequately implemented, due to not needing to develop a full-fledge webapp. The [design](https://docs.google.com/document/d/1U1p2BJW4fjtcgWO9MlwxOHVUIfp6n8t9wXd7JF1OytA/edit?usp=sharing) and [workflow](https://docs.google.com/document/d/1kBm-IZ0DntCpgO25f5NFqvy-srxwLuu947PPaB8L8wI/edit?usp=sharing) for these systems and their incorporation into the experiment are described in two documents. It is worth noting that our team has faced considerable delays in development, due to illness, availability, and progress.

## Deployment & Product Closure

After the completion of the experiment, draft analysis reports will be submitted to our industry partner for review and validation, and once it has been finalised, the findings will be presented, and any remaining questions about the outcome can be discussed. The documentation, code base, planning, and reports will be handed over digitally, via a [GitHub repository](https://github.com/zoinkatron/capstone-preference-project). An online copy of the work remains on the team G-Drive, and our partner may proceed however they would like after receiving the final products. The timeline for this follows the same sequence as in the team sprint plan. Handover is planned to commence on the 30th of October 2024 (Week 14 of Semester 2, 2024).

## Sign off

### Explanatory note

This agreement lays out what the team will be able to deliver within the timeframe of the project. By signing this agreement, all parties acknowledge that the following artefacts will be provided in a timely manner, and of good quality.

Deliverables checklist: *(check the appropriate boxes for what has been delivered)*

* Remade preference system
* Apportionment preference system
* Positive/Negative preference system
* Documentation and codebase
* Preliminary Test plan and analysis report
* Experiment Plan and Analysis report
* Draft Experiment plan

| Project owner: |  |
| --- | --- |
| Signature: |  |
| Date: |  |

| Industry Supervisor: |  |
| --- | --- |
| Signature: |  |
| Date: |  |

| Project members: |  |
| --- | --- |
| Signature: |  |
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|  |  |
|  |  |
| Date: |  |

## References

1. Team stand-up document <https://docs.google.com/document/d/16MKNm92G1fafZXhFKlLx1zR4YnIalI-x9MrCFYCUcXI>
2. Industry Partner meeting notes <https://docs.google.com/document/d/1VhmrKe69QcEpbqGCONB9m4yV9mXi7f1HaRaQaFzjaYo>
3. User Stories (Phase 1) https://docs.google.com/spreadsheets/d/19oiGUZrEcXC3BCOtXjA9A9q6TJJitOunGdnHlrgFzqc/edit?usp=sharing
4. User Stories (Phase 2)

https://docs.google.com/spreadsheets/d/1XHC7Md2xk-OWQvvGMNbcslDmw10\_Eo51/edit?usp=sharing&ouid=109292690840291262542&rtpof=true&sd=true

1. Workflow and Business process <https://docs.google.com/document/d/1kBm-IZ0DntCpgO25f5NFqvy-srxwLuu947PPaB8L8wI/edit?usp=sharing>
2. System architecture <https://docs.google.com/document/d/1U1p2BJW4fjtcgWO9MlwxOHVUIfp6n8t9wXd7JF1OytA/edit?usp=sharing>
3. GitHub Repository

<https://github.com/zoinkatron/capstone-preference-project>

## Appendix

Table 1 Sprint milestone table

| Week | Sprint | Milestones |
| --- | --- | --- |
| 1-2 | Sprint 1 | Review work done |
| Prepare for meetings |
| Draft Experiment plan |
| Project documents |
| 2-4 | Sprint 2 | Draft Experiment plan - continued |
| Experiment plan approval (ethics/partner) |
| Develop Test-Systems |
| Observe IFB398 semester 2 preference rounds |
| 5-6 | Sprint 3 | Analyse IFB398 Sem 2 preference data |
| Bug test Test-Systems |
| Initiate participation invitations |
| 7-8 | Sprint 4 | Begin experiment |
| Monitor Systems/Collect Data |
| 9-10 | Sprint 5 | Experiment ongoing |
| Draft analysis report for Industry Partner |
| End of sprint: Experiment concludes |
| 11-12 | Sprint 6 | Edit/finalise report |
| Prepare for end of capstone (capstone report, presentation, demo) |
| 12-14 | Sprint 7 | Handover project and deliverables to partner |