MRes Project Meeting 2

Attendees: Maria Fox, Sophie Turner, Nopi Exizidou, Beatrix Schlarb-Ridley.

Date: 6/4/22.

Time: 16:00.

Location: Zoom.

Agenda

Meet people from BAS operations to learn about data format and database expectations. Learn from them where to start with the project.

Progress

Sophie is starting the first assignment of the Coursera course now.

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| --- | --- | --- | --- | --- |
| Task | Assignee(s) | Deadline | Completed | Comments |
| Do Coursera course – Basic Modeling for Discrete Optimisation | Sophie | 9/4/22 | Ongoing |  |
| Set up MiniZinc | Sophie | 9/4/22 | Yes |  |
| Read literature | Sophie | 9/4/22 | Yes |  |
| Arrange meeting with BAS operations people | Maria | 4/4/22 | Yes |  |
| Arrange weekly meeting timeslot | Maria | 9/4/22 | Yes | Fortnightly |
| Give Sophie access to video from Exeter student’s project | Maria | 9/4/22 | No | Soon |

Questions/problems

Is there a backup or buffer of food supplies in case the supply vessel is unable to reach them in time? Yes. Excess food is stocked at the station and yearly orders include extra food which are stocked.

Does the food need to contain halal meat? Possibly but probably not. Find out from last year’s orders.

How often is food delivered? Once a year by the SDA. Fresh foods are usually brought by aircraft every few days with the passengers, but not always. BAS are open to reviewing this if required

How far in advance is food ordered? 1 year, but BAS are open to reviewing this if required.

Is the project for all consumables including cleaning supplies and toiletries? No. Just food and drink.

Is there a database, or will there be database server space for me to use for a database if required? Possibly. Find out from Rachael, John and BAS IT team later.

Should my code repo be public or private? Private. Invite Maria and Nopi.

Will HPC be required? No.

Discussion

The project will focus on the Rothera research station due to its relatively large size and remote location.

People arrive at and leave Rothera every few days by aircraft.

The suppliers used could constrain the ability to reduce plastic waste. The suppliers will not be changed but items ordered may be changed. Food waste is burnt. Consider packaging, e.g. beer provided in bottles, cans or a barrel.

Use public health info to plan nutrition. The calorie intake required at meals is high due to the high physical demand of the work done and the harsh environment. Individuals require different calorie intakes based on their work role, age, gender, height, etc. Analyse this and take the higher end as a baseline to ensure everyone is well fed. Assume that people with the highest calorie requirements will opt for extra sides with meals. Hot food is required to keep them warm. They must enjoy their meals, as Antarctica is a depressing place and this could affect their mental health. Beer, wine and snacks are also provided to benefit their mental health. Rothera has a resident chef and a canteen but smaller stations require scientists/workers to allocate and cook their own or their team’s meals. Different diets and intolerances must be catered for. Some fresh fruit and vegetables must be provided. Almost all the people are healthy adults, younger than 50. 80 to 100 % of them are men. Many of them are unwilling to adopt a vegetarian diet. Consider replacing beef and cheese with chicken and eggs, and mixing meat with mycoprotein to reduce the environmental impact of meat.

Discuss the sustainable food programme and report with Rachael and John later.

Minimise food waste, plastic waste, travel cost, storage cost, purchase cost and associated GHG emissions. Maximise enjoyment of food.

The data will probably be spreadsheets. Put them into CSV format. Discuss this with Rachel later.

A front end may also be required.

Next tasks

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| --- | --- | --- |
| Task | Assignee(s) | Deadline |
| Do Coursera course – Basic Modeling for Discrete Optimisation | Sophie | 14/4/22 |
| Define exactly what needs to be done | Sophie | 14/4/22 |
| Create a project management board | Sophie | 14/4/22 |
| Create a code repo | Sophie | 14/4/22 |
| Arrange a meeting with Rachael and John to discuss data | Maria | 14/4/22 |
| Give Sophie access to video from Exeter student’s project | Maria | 14/4/22 |

Next meeting

Agenda: Discuss occupancy data.

Attendees: Maria Fox, Sophie Turner.

Date: 14/4/22.

Time: 09:00.

Location: Zoom.