Freshers’ Group-Working Activities for Fun, Learning and Prizes

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The Wider Induction Context

- "Welcome week"
  - Preceded by "Welcome weekend" activities
  - Comprehensive range of activities from 3 tiers
    - Institution-level: registration, Freshers' Fair, other SU activities...
    - Department-level: talks on library, IT, resources...
    - Programme-level: e.g. this activity!...
  - Some are timetabled

- In the CS&CT Department in recent years:
  - More emphasis on preparing students for academic life
    - Freshers joining a scholarly community
    - Research talks from staff
    - Green IT talks and activities
    - Programming practical with C and Arduino microcontroller kit
    - This activity!

10th July, 2014
Our Group-Working Social Event: Aims

- Help students to make friends quickly
- Help them to settle into their courses quickly
- Be fun!
- We used bridge building with straws for a number of years to meet these goals
New Aim

10th July, 2014 National Student Induction Workshop

- Induction to reflect:
  - cognitive skills &
  - practical skills
- that students will use in their first-year studies
Relevant Cognitive and Practical Skills

- Communication skills
- Abstract modelling skills
- Problem analysis and problem solving skills
- Practical modelling skills
Team and Individual Working

- The skills are introduced using activities
- Activities involve both:
  - Tasks for individuals and
  - Tasks for teams
A fifth activity, speed networking, facilitates:

- Meeting and chatting to many more new students
Infrastructure

- 3 hour event
- Large open space
- 200 students from seven awards
- Teams of five
- 38 numbered tables
- 5 workstation tables
- PA system
- Marking templates
- Marking spreadsheet
Overall Schedule

• Three sessions:
  - T1 and A1
    - 50-60 minutes
  - Speed Networking + Refreshment
    - 30 minutes
  - T2 and A2
    - 50-60 minutes
  - Tidy up + Prize Giving
    - 20-30 minutes
Overall Schedule

- Three activity types:
  - T-type,
  - A-type, and
  - Speed Networking

- T-type:
  - Each group has a table as its base.
  - T-type means table based activities; students work on their own table.

- A-type:
  - Arena based activities.
  - During table based activities, groups are called out to separated areas for activities which require invigilators.
• Some typical team names:
  - Havana Autos
  - Team Solo Mid
  - Wildcats
  - The Doorknobs
  - Twenty Fourz
  - 22CBD
• Modelling two restaurant processes:
1st Model

- In your team,
  - consider the process involved in dining at a first-class restaurant.
  - Your party will be greeted on arrival and then seated;
  - next your order will be taken.
  - This will be followed by your meal being served
  - and finally payment will be collected.

- Model this process using the provided notation
2nd Model

- Now consider the seating process in more detail.
  - If you have booked in advance, you will be assigned a table straight away.
  - If you haven’t, the waiter will check to see if there is a free table;
    - if there is one, you will be assigned to it.
    - If there isn’t, the waiter will see if tables can be rearranged to seat you;
      - if he can, you will be assigned the rearranged tables;
      - if he can’t, he will invite you to wait for a table;
    - and after a certain amount of time he will check again for an available table.
- Model this process using the provided notation
Think about the process of how a company handles an order.

- The company will receive an order,
- check that the buyer’s credit is ok,
- fulfil the order and send out an invoice.

In the BPMN notation this process is modelled graphically as follows:
But what happens if the buyer’s credit is not ok, or the goods aren’t in stock?

A more complete model of the order process is:

The thin circle at the start is called a **start event**.
The thick circles at the end is called an **end event**.
The rounded rectangles are called **activities**. They represent actions. They have names of the form VERB-NOUN, e.g. Send Invoice.
Activity-2: Team Communication

- During the first hour,
  - While teams are doing abstract modelling,
  - each team in turn is called to a workstation where
  - four team members describe a drawn figure to a fifth,
    - who can’t see it,
    - but has to draw it!
Activity-2: Team Communication

A1 – Drawing Game

How would you describe these drawings to someone who can’t see them?
Low Scoring Drawing
High Scoring Drawing

Team Solo Mid
25
Interval: Tea and Speed Networking

- 200 people, 40 tables, 5 per table
- Using half hour refreshment break:
  - maximize the total number of new people meeting each other
- Three rounds:
  - In each round students move to a new table to meet new people.
- We wrote a computer program to generate a schedule for each individual student
Speed Networking Scheduling Algorithm

- **Data structures used:**
  - Relation-matrix to track who has met who
  - People-lists to track who has been assigned or not assigned

- **From round one to round N do {**
  - From table one to table M do {
    - Randomly assign people to a table until it’s full
    - If a person has met any one on the table, pick another person
    - After assigning a person, update the relation matrix
  }
  }// if no suitable person, backtrack
During the next hour, each team was called to one of the workstations set aside where:

- each member flew their aeroplane.
- points were scored for the distance flown
- scores aggregated for team’s overall score

In parallel, team solved the “travelling salesman” problem
• Individual activity: create a paper aeroplane from a sheet of A4 paper...
• ... and fly it!
Activity-4: Analysis and Problem Solving

- Solving the “travelling salesman problem”
  - A classical computationally “expensive” problem
  - Encourages teamwork
Activity-4: Analysis and Problem Solving

Explanation

- On the right is our campus map
- Each node is a building
- The task is to plan the shortest route from A-block back to A-block, visiting each other block exactly once
## Activity-4: Analysis and Problem Solving

The distance between blocks in metres.

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So, e.g. D to C is 24 metres
Results were totalled for each team
Marks for tasks were normally distributed across teams
- So task difficulty had been judged (approximately) correctly
£20, £10 and £5 gift tokens awarded to the 1st, 2nd and 3rd placed teams.
Student Feedback

“I found the **speed networking** exercise **useful**.
- For some strange reason many computer people are not the most extrovert and this was **a really good icebreaker**.
- The time limits meant you got to **meet lots of different people**”

“The **travelling salesperson** was ok
- **I liked** the fact it was **intellectual** rather than practical –
- I hate those things where you have to build something out of straws & milk bottle tops. The **paper planes** thing was **fun** and again, a **good way of meeting other students**.”

“I **enjoyed the social** a lot.
- That is actually where I **made some of my closest friends**, including one person I am living with next year.
- The activities were **good for teams** to do. A **valuable experience**!”
“One final very small thing, it didn’t say there would be food there, so I had lunch beforehand. This meant I missed out on the sandwiches.”

“I did find that the salesman problem was quite long to get through.

- I would suggest to use more of a technological approach, for example games that use mobile phones or computers for solving problems that are fun and interactive for a whole team.”

“The travelling salesperson was ok but it's not really something that involves teamwork”

Re the travelling salesman:
- “I think something that could be broken into several components would have been more suited to teamwork.”
Very cost-effective event:
- 200+ students managed by just 6 members of staff who
  - Supervised activities
  - Marked activities
Either:
- Customise the activities we used for these categories
  - Problem analysis and solving
  - Communication
  - Abstract and
  - Concrete modelling

Or:
- Replace one or more of these categories with your own and
- Choose appropriate activities for your categories
Materials

- A4 paper
- 200 pencils
- 20 rubbers
- Coloured scellotape (for distance markers on floor)
- Table numbers
- Blue tac
- Marking sheet pro formas
- Marking spreadsheet
- PA system
Hour-1 Table Materials

- Modelling instructions x 5 (one for each team member)
- Modelling answer template with header x 1 (team answer)
- A4 paper for draft modelling x 5
- Drawing task marking sheet x 1
- 5 pencils
- 1 rubber
Hour-2 Table Materials

- Travelling salesman instructions x 5
- Travelling salesman answer sheet x 1 (team answer)
- Aeroplane paper x 5 (one for each team member)
- Aeroplane instructions x 1 (for the table)
- Aeroplane marking sheet x 1 (for the team)