University of New South Wales

School of Engineering and Information Technology

Human Perception of Swarming

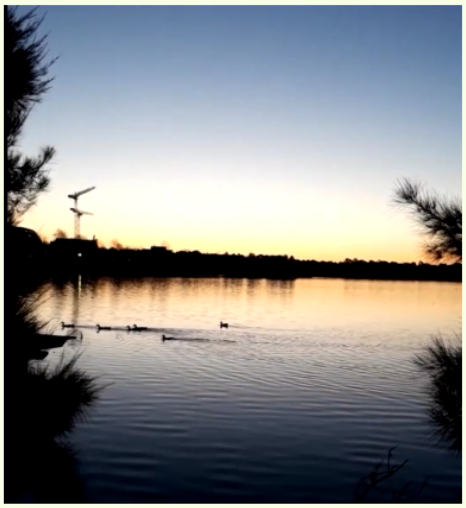
Participant Information Statement

What is the research study about?

Flocking behaviour refers to the way that groups of birds, insects, fish or other animals, move close to each other. They are able to move as a group with the same velocity, yet without running into each other.

Align refers to their movement in the same direction.

Group refers the way that they clustered together.



Next

It is quite simple for an individual to move in a flock. You might have moved in this way as part of a large crowd leaving a sporting event or theatre. Even though it's easy for an individual, the behaviour of the whole flock can appear complex to an observer.

Next

Why we run this survey?

Humans easily recognise flocking in nature, although sometimes it is hard for them to explain why. It is also easy to make computer simulations of flocking behaviour. Take a look at these two examples:

Full Screen

Full Screen

However, it is very hard for a machine to recognise flocking, either in nature or in a simulation. We want to understand how humans do it. You can help us with this.

Please note that, none of your personal information will be requested or saved during this survey.

Next

Who is conducting this research?

The study is being carried out by the following researchers at UNSW Canberra:

- Dr Shadi Abpeikar (Research Associate)
- A/Prof Kathryn Kasmarik (faculty)
- A/Prof Michael Barlow (faculty)
- Md Mohiuddin Khan (PhD student)

Research Funder: This research is being funded by University of New South Wales (UNSW) Canberra.

Next

Inclusion/Exclusion Criteria

Before you decide to participate in this research study, we need to ensure that it is ok for you to take part. There is not any restriction criteria for participants, but only the research study is looking recruit people who meet the following criteria:

- Be more than 18 years of age.

Note: This survey is best experienced on a desktop, although it is compatible with many mobile devices. Please use a desktop version of Chrome, if you find any incompatibilities in your phone browser.

Next

Do I have to take part in this research study?

Participation in any research study is voluntary. If you do not want to take part, you do not have to. If you decide to take part and later change your mind, you are free to withdraw at any stage. If you withdraw before pressing "Submit" button in the last page, your answers will not be saved. If you decide to withdraw after pressing "Submit" button, the research team could not remove your answers, since this an anonymous research survey. If you do not wish to participate, your relationship with the researchers and with UNSW will not be affected at all.

If you decide you want to take part in the research study, you will be asked to:

- Read the information carefully (ask questions if necessary);
- Complete the online questionnaire.

Next

What does participation in this research require, and are there any risks involved?

If you decide to take part in the research study, we will ask you to complete an online questionnaire. The questionnaire will show you some captures of short videos of computer simulations of small particles called 'boids' (short for bird-androids). Therefore, for each video you will be asked a question, which begins, "Move the sliders to tell us how well the boids are ...". Then there are three sliders beside each video which range from "Flocking" to "Not flocking", "Aligned" to "Not aligned", and "Grouped" to "Not grouped". We would like you to move the sliders to tell us three things about the motion of the boids:

- How much does the motion of the boids appear to be 'flocking' to you? E.g., could it be the motion of a group of birds? Insects? Sheep? Or even humans?
- How well are the boids grouped?
- How well are the boids aligned (going in the same direction)?

It should take approximately **20 minutes** to complete.

If you experience discomfort or feelings of distress while participating in the research and you require support, you can stop participating at any time. You can also contact a member of the research team and they will provide you with assistance.

Next

What does participation in this research require, and are there any risks involved?

If you decide to take part in the research study, we will ask you to complete an online questionnaire. The questionnaire will show you some captures of short videos of computer simulations of small particles called 'boids' (short for bird-androids). Therefore, for each video you will be asked a question, which begins, "Move the sliders to tell us how well the boids are ...". Then there are three sliders beside each video which range from "Flocking" to "Not flocking", "Aligned" to "Not aligned", and "Grouped" to "Not grouped". We would like you to move the sliders to tell us three things about the motion of the boids:

- How much does the motion of the boids appear to be 'flocking' to you? E.g., could it be the motion of a group of birds? Insects? Sheep? Or even humans?
- How well are the boids grouped?
- How well are the boids aligned (going in the same direction)?

It should take approximately **20 minutes** to complete.

If you experience discomfort or feelings of distress while participating in the research and you require support, you can stop participating at any time. You can also contact a member of the research team and they will provide you with assistance.

Next

How and when will I find out what the results of the research study are?

The research team intend to publish the results of the research. If you would like to receive a copy of the research report and the final generated data, please contact the research team, and the research team will send you the link to the report and data, as soon as it is available.

Next

What if I want to withdraw from the research study?

If you do consent to participate, you may withdraw at any time. You can do this by closing the questionnaire. If you withdraw from the research, we will destroy any information that has already been collected. Once you have submitted the questionnaire however, we will not be able to withdraw your responses as the questionnaire is anonymous.

Next

What should I do if I have further questions about my involvement in the research study?

The person you may need to contact will depend on the nature of your query. You can contact the research team, If:

- you require further information regarding this study;
- you have any problems which may be related to your involvement in the study;
- you want to receive the future reports of this study.

Research Team Contact

Shadi Abpeikar (Research Associate)
Telephone: +61 2 6268 8669
Email: s.abpeikar@adfa.edu.au

Next

What if I have a complaint or any concerns about the research study?

If you have a complaint regarding any aspect of the study or the way it is being conducted, please contact the UNSW Human Ethics Coordinator:

Complaints Contact

Human Research Ethics Coordinator
Telephone: + 61 2 9385 6222
Email: humanethics@unsw.edu.au
HC Reference Number: HC190986

Next

- [ ] **I confirm that I am over 18 years of age.**
- [ ] **I understand I am being asked to provide consent to participate in this research project.**
- [ ] **I have read and understood all above information.**
- [ ] **I understand the purpose and nature of this study and I am participating voluntarily.**
- [ ] **I grant permission for the data generated from this survey to be used in the researcher's studies on this topic.**

I agree, start questionnaire

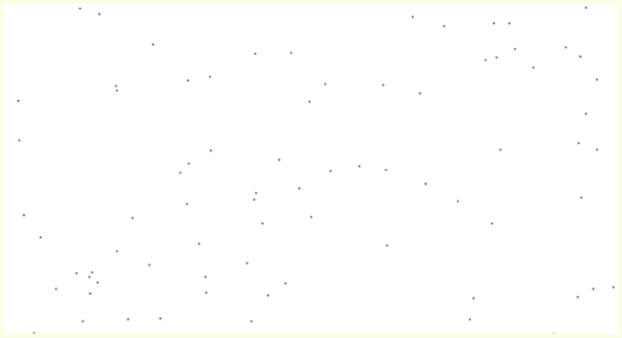
Quick Guide:

- **Flocking** implies the motion of boids is like a group of birds, insects, sheep or humans; Which means the movement with the same velocity in the same direction and without collision.
- **Aligned** implies the boids are moving in the same direction.
- **Grouped** implies the boids are clustered together.

Question 1

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Question 2

Move the sliders to tell us how well the boids are:

FullScreen

Flocking — Not Flocking

Aligned — Not Aligned

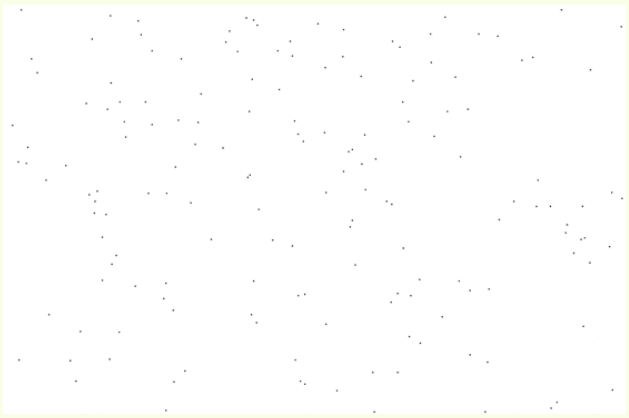
Grouped — Not Grouped

Next

Question 3

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

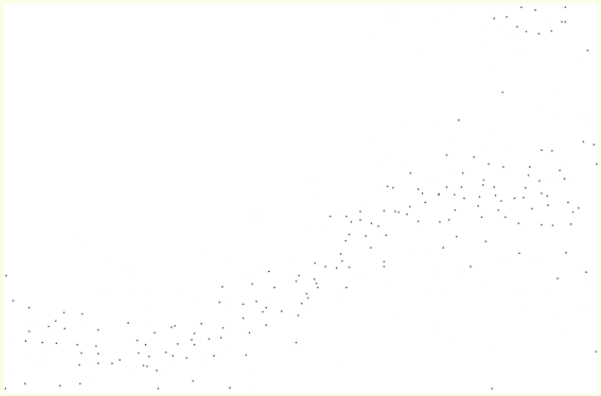
Grouped — Not Grouped

Next

Question 4

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

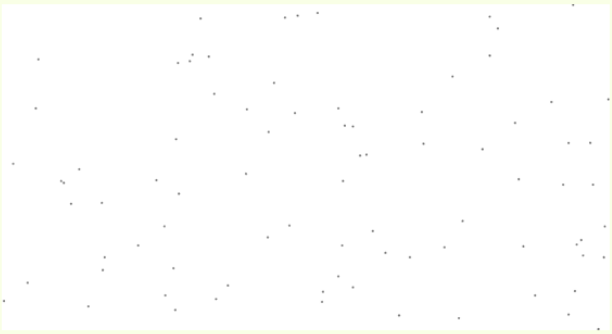
Grouped — Not Grouped

Next

Question 5

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

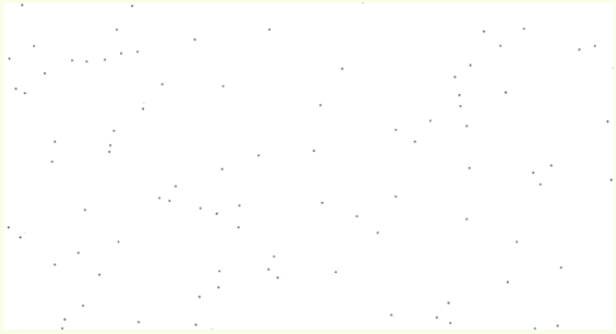
Grouped — Not Grouped

Next

Question 6

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Question 7

Move the sliders to tell us how well the boids are:

FullScreen

Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Question 8

Move the sliders to tell us how well the boids are:

FullScreen

Flocking — Not Flocking

Aligned — Not Aligned

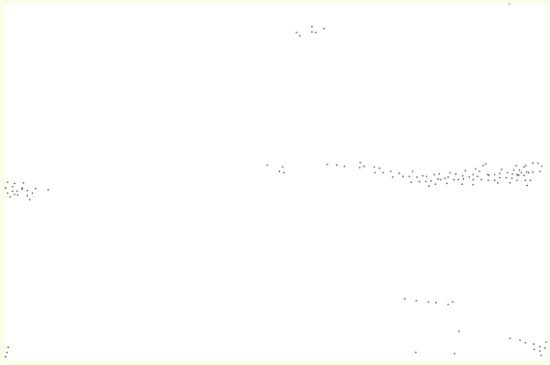
Grouped — Not Grouped

Next

Question 9

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

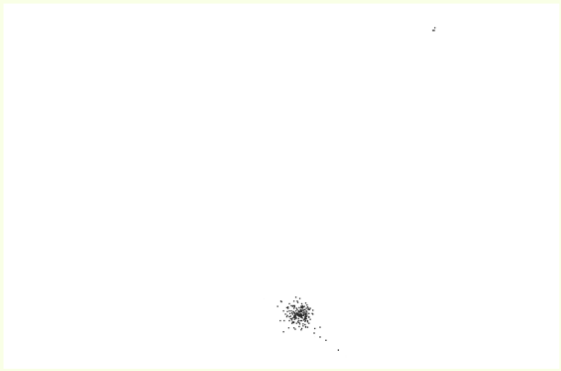
Grouped — Not Grouped

Next

Question 10

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Question 11

Move the sliders to tell us how well the boids are:

FullScreen

Flocking — Not Flocking

Aligned — Not Aligned

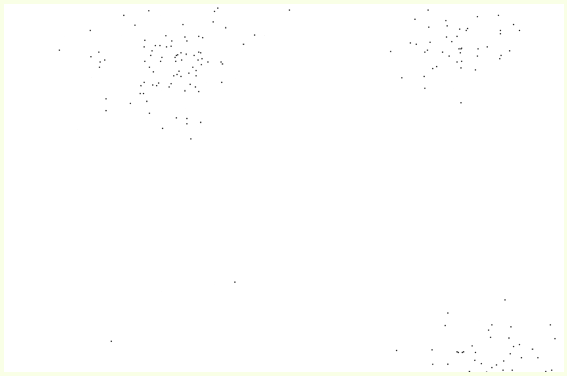
Grouped — Not Grouped

Next

Question 12

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Question 13

Move the sliders to tell us how well the boids are:

FullScreen

Flocking — Not Flocking

Aligned — Not Aligned

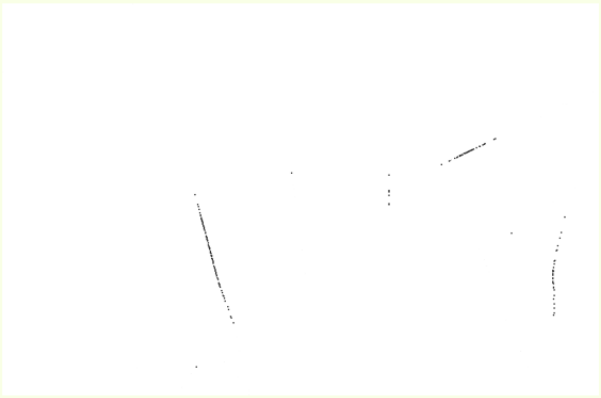
Grouped — Not Grouped

Next

Question 14

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

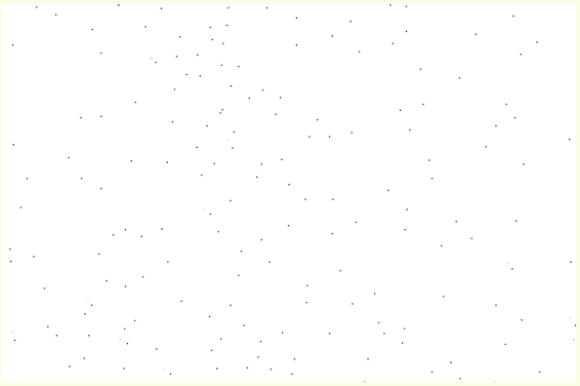
Grouped — Not Grouped

Next

Question 15

Move the sliders to tell us how well the boids are:

FullScreen



Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Question 16

Move the sliders to tell us how well the boids are:

FullScreen

Flocking — Not Flocking

Aligned — Not Aligned

Grouped — Not Grouped

Next

Do you want to submit your answers?

Submit Survey