1. What tools are they using?
2. What techniques?
3. Are they developing algorithms or software tools?
4. Is there a theme in terms of what they are trying to achieve?
5. Are the works focused on sensing? Actuation? Both?
6. Are they working with a particular group of users, or on a particular type of problem?

Human Computer Interaction – Research in the design and the use of computer technology, focuses on the interfaces between human and computers.

Haptic Devices – Device that can provide touching experiences by applying forces, vibrations or motions to the user.

Sensors – Device that produces an output signal for the purpose of sensing a physical movement

Actuators – Mechanism by which a control system acts upon to perform a task.

Design – Evaluate or design a user interface

Fabrication – Fabrication techniques such as 3D printing, laser cutting and related computer-controlled technologies can be applied to problems in Human Computer Interaction.

Hi, I’m Rona. In this video I will be presenting my affinity diagram. I created diagram by using the affinity diagram template from Miro. I skimmed abstracts and index terms of 50 papers which are chosen under the User Interface Software And Technology proceedings, and Conference On Human Factors In Computer Systems. For each paper, I selected around 5-10 keywords including the index terms. Then I categorized them by prioritizing index terms, followed by other repeated words. The themes I discovered and find interesting are mainly landed on the theme Human- Computer Interaction, and they are haptic devices, sensors, actuators, design and fabrication. As they usually

What affinity diagrams are for and how to create them?

* It is a graph to clearly visualize a lot of mixed data by categorizing information into groups or themes.
* The method is also called “Space Saturate and Group”
* First, saturate the “space” with notes, then “group” them by drawing connections between these notes, which will help define the information and develop potential insights for solutions.
* Observation->Analysis->Synthesis

Macro themes & micro themes

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| UIST / keys | 3D printing | Lasers | Sensing | Actuation | Electronics | Tangible | Physical Interfaces |

|  |  |  |  |
| --- | --- | --- | --- |
| UIST | Title | Keywords | Session title |
| 1 | Dynablock: Dynamic 3D printing for instant and reconstructable shape formation | **3D printing,**  dynamic,  **shape formation,**  **reconstruct shape,**  3D printers,  **shape displays,**  conventional 3D printing,  arbitrary 3D shape,  **dynablock,**  interactive medium,  **fabrication**  linear actuators,  **human-centered computing,**  **human computer interaction (HCI),**  **interaction devices** |  |
| 2 | Methods of 3D printing micro-pillar structures on surfaces | **3D printing,**  **Design and fabricate,**  Hair geometry,  3D printable shape,  **Toy ,**  **Human-centered computing,**  **Interaction design,**  **Interaction design process and methods,**  **Interface design prototyping** |  |
| 3 | Designing Low-cost sports prosthetics with advanced 3D printing techniques | Prosthetic limbs,  Sport prosthetics,  Design and associated costs,  **3D-printing,**  Prosthetic hand,  Integrated strain sensing,  Haptic feedback,  Prosthetic design,  **Human-centered computing,**  **HCI,**  **Interaction devices,**  Haptic devices,  Social and professional topics,  Professional topics,  Computing profession,  Assistive technologies |  |
| 4 | A novel real time monitor system of 3D printing layers for better slicing parameter setting | Capture,  Reconstruct,  Better slicing parameter setting,  Multiple camera system,  **Image processing algorithm,**  G-code,  Standard computer vision technique,  **Applied computing,**  **Document management and text processing,**  **Document capture,**  **Graphics recognition and interpretation,**  **computing methodologies,**  **computing graphics** |  |
| 5 | Portable Laser Cutting | **Laser-cut 3D models,**  **2D cutting plans** |  |
| 6 | AutoAssembler: Automatic Reconstruction of Laser-cut 3D Models | **Laser-cut 3D models,**  **2D cutting plans,** |  |
| 7 | Roadkill: Nesting Laser-cut objects for fast assembly | **Laser-cut 3D models,**  **2D cutting plans,** |  |
| 8 | SensiCut | **Speckle Sensing，**  **Deep Learning,** |  |
| 9 | Daedalus |  |  |
| 10 | Rapid Prototyping |  |  |
| 11 | Touch |  |  |

30 papers

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