**My research**

**Sculpting with digital foam**

NAME: Ross Travers Smith, PhD candidate

BACKGROUND: Ross Travers Smith holds a Bachelor of Information Technology (software engineering) with honours from the University of South Australia and is a PhD candidate at UniSA's Wearable Computer Lab.

WHERE: UniSA's Mawson Lakes Campus, School of Computer and Information Science, Wearable Computer Lab.

RESEARCH: Humans have used their hands for shaping and manipulating physical materials to create free-form shapes, from making sand castles at the beach to sculpting clay on a pottery wheel. Computer modelling systems have adopted techniques based on these activities and incorporated them into three-dimensional CAD environments. At present, a problem with these systems is that using a keyboard and mouse to make a 3D model requires a lot of time and effort sculpting a piece of clay in your fingers. Dr Ross and his colleagues at the Wearable Computer Lab have been exploring how computer modelling can be made more similar to sculpting clay. To achieve this, they have developed a new sensor called “digital foam” that records a gesture and responds to it. By presenting the information to users, they are able to express their sculpting ideas in a more natural way.

**TECHNOLOGY:** The sensor is constructed with a small conductive foam material that has unique electrical properties, allowing its shape to be captured by a computer. This sensor has been used to construct a sphere-shaped computer input device that allows 3D computer models to be created by squishing the device much like we do when sculpting clay. The initial prototype has 162 foam sensors embedded in its surface. These are used to detect squishing, twisting, and rolling gestures.

**RESULTS:** Multiple applications for digital foam are anticipated, from human-computer interfaces for mobile devices and home entertainment games controllers to medical manoeuvres for training surgeons and dentists. UniSA’s commercialisation arm iMEd is investigating marketing and investment opportunities.

More information is available at wearables.unisa.edu.au

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**The Story So Far**

**2008**

February 6th: Australian Education Union starts formal enterprise bargaining negotiations with State Government.

March 31: Previous three-year agreement expires.

April 16: Government offers 9.75 per cent over three years. Rejected by the union.

May 16: 3000 teachers rely on the steps of Parliament House, demanding an improved offer.

June 29: Government puts revised offer to teachers which changes conditions but does not vary pay offer. This is rejected.

June 30: Teachers hold first full-day strike, 10,000 rally on steps of Parliament.

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After more than 18 months of negotiations and hostility, the dispute between the teachers union and the State Government may finally be nearing a resolution.

**The Story**

**2009**

November 3: AEU announces it will strike on November 21, the final day of Year 12 exams and hold rolling half-day stoppages until the end of term. The union also presents a new submission to the Government, reducing its wage claim from 21 per cent to 18 per cent and asking for a controversial future funding model to be dealt with separately.

November 4: Fourth Government offer of 13.6 per cent (14.21 per cent compounded over three years) for classroom teachers and 11 per cent (11.4 per cent compounded) for other staff including principals and support workers, and a new funding model for schools. Rejected by the union.

October 30: Teachers hold half-day strike.

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**They feel the Government has held them to ransom over the salary and funding model by tying the two together**

"I don't think it's done the reputation of the Government to handle issues like this any good. I don't think it's helped education. "There's got to be a better way of doing this."

Turning his attention to the future, Mr Knuckey urges the parties to learn lessons from the saga. "We've got to ensure that arbitration is just a last resort."

"The Government has held them to ransom over the salary and funding model by tying the two together, but we were not prepared to settle for a salary offer that also contained the funding model," she said.

"It's completely out of our hands."

"Without substantial change to the system, there are insufficient funds to support the changes."
teachers to cancel a planned full-day strike on November 21 and for the parties to enter formal arbitration proceedings.

**November 21:** Teachers cancel the strike but most parents caught short and classrooms are left empty.

**November 27:** Premier Mike Rann accuses the union in Parliament of “outrageous” antics.

**December 3:** Government offers TAFE SA workers a 13.8 per cent pay rise compensated over three years in a bid to create a separate enterprise agreement from that of school teachers but is rejected in a ballot of TAFE employees.

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### 2009

**January 23:** Teachers begin ‘Apple for Teacher’ campaign to pressure the Government, vowing to deliver a symbolic apple to the Premier and key ministers every school day until the dispute is resolved.

**January 28:** Union reverts to its 21 per cent pay claim in its arbitration application to the Industrial Relations Commission.

**February 9:** Public preschool, school and TAFE teachers awarded a 3.75 per cent interim pay rise by the Industrial Relations Commission. Union later revises its pay claim to 17.25 per cent to take account of the interim payment.

**August 3:** Union and government return to the Industrial Relations Commission to begin arbitration hearings, expected to take at least two months.

**October 8:** Union members rally on the steps of Parliament House urging the State Government to increase funding for special needs students.

**October 20-23:** Final submissions for arbitration expected to be heard in the Industrial Relations Commission. A formal decision is expected by the end of the year.

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### Testing Teachers

**Wage parity - what the fight is all about**

- A wage rise of 21 per cent would lift the top salary to $83,821 by next year.
- The Government’s final offer was 13.6 per cent (14.21 per cent compounded over three years) which would raise the top salary of $4 per cent of classroom teachers to $75,505 in the first year and $78,148 in the third. Other staff, including principals and support workers, would get 11 per cent (11.4 per cent compounded).
- Top South Australian independent school teachers are paid up to $73,000 while Catholic school teachers are paid similar wages to public school teachers.
- South Australian teachers are the lowest paid in the nation, on a top salary of $70,987.
- Figures supplied by the AEU show senior teachers are paid about $71,993 in Queensland, $77,546 in Victoria, $78,703 in New South Wales, $74,279 in the Australian Capital Territory, $71,133 in Tasmania, $61,076 in Western Australia and $73,652 in the Northern Territory by 2012.
- Teachers in WA last year secured pay rises of between 15.8 per cent and 21.5 per cent over three years. In the same year, senior Victorian teachers became the best paid in the nation after a 13 per cent rise over three years and built-in bonuses.

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### My job

**From a degree to a career**

**NAME:** Sarah Kurlinkus

**JOB:** Wardrobe assistant, Credit Union Christmas Pageant

**STUDY:** I have undertaken various avenues of study all related to my current role. I have completed a diploma at Regency TAFE in textiles, clothing and footwear. In addition, I have completed study at the Centre of Performing Arts with a major in costumes. My diploma at TAFE and course at the Centre of Performing Arts were each two years in duration.

- The courses I have undertaken are specifically designed for those with a creative flair, good attention to detail and a passion for creativity in the arts sector.
- The courses gave me a basic understanding of patterns and shapes which set the foundation on which I have built my breadth of experience.
- All of the study I have undertaken has been practical and contributed to my career and I would recommend my courses to those interested in this industry as it gives you an understanding of the shape of the body and how fabrics behave. These are all critical elements when designing costumes.

**CAREER:** My studies set the foundation of knowledge for my career, no matter in which direction it has traveled. I have been lucky enough to have a wide and varied CV to date, with seven years at Ricarp Productions (designing costumes for showgirls and drag queens) to working on a theme park costume team in Asia and for the past two years producing body-building costumes.

- I believe it was not for my education and experienced background, then I would not be working at the Credit Union Christmas Pageant.
- I would see my career advancing in my current place of employment. I aspire to be the supervisor for the Credit Union Christmas Pageant wardrobe team.

- The best part of my job is making strange and wonderful things, things that I know will bring a smile to someone’s face on pageant day, which this year will be held on November 14.

- My chosen career is one I would highly recommend, and as every day there is something new, it is very creative and ideally would suit anyone who has a passion for creative elements outside the square of a day-to-day existence.

- If I had to say there was a negative, it is the blisters on my hands from two months of ironing more than 1,000 costumes after the pageant.

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