

Creative ways that students cheat

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Extreme cheating methods

Anti-cheating drone will hover over test-takers in China

For students taking the national university Entrance exams in China, there's now one more little thing to worry about: drones, deployed to catch cheaters.

The drone is a **hexarotor** and, as reported by China's [state-owned ECNS](#) news service, it will scan for suspicious radio signals from exam-takers. While that won't stop any cheaters who use low-tech methods to get around difficult questions, it will detect any number of [advanced methods](#) that rely on the test-taker exchanging information with a second party outside the exam room. These methods include cameras hidden in glasses with transmitters hidden in water bottles, cell phones hooked up to flesh-colored wireless headphones, and pen cameras that film the exam-takers' test.

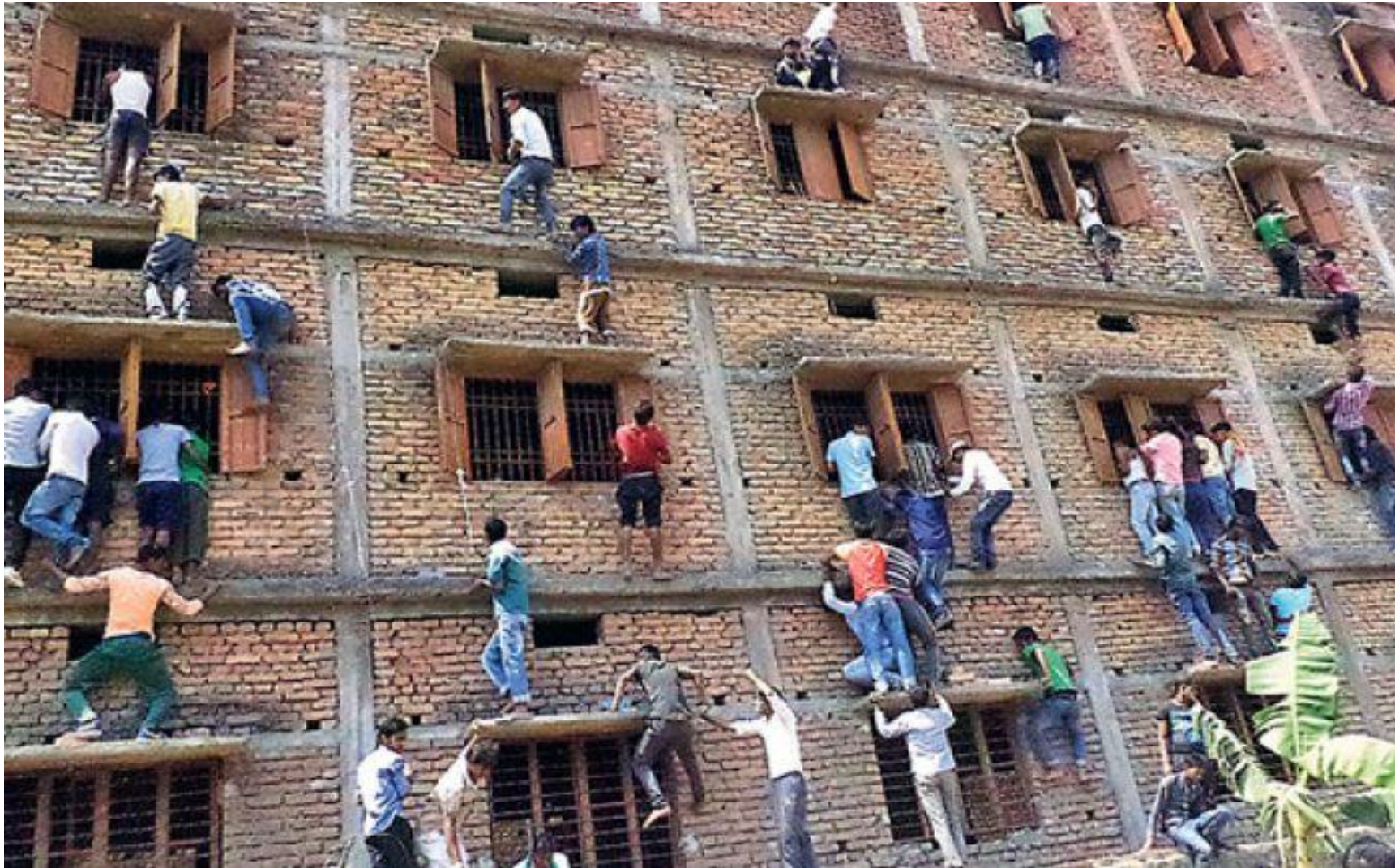
The anti-cheating drone hovers at 1600 feet above the ground. If it eavesdrops on a radio signal from one of these devices, the drone forwards the location to operators, who can see where that exam taker is on their mobile device. Cheaters who get caught can face legal penalties.

ECNS states that the exam drone led to the arrest of 9 suspects in 2014.



Article published 5 June 2015 in Australian Popular Science

Family members giving a helping hand - Bihar, India



Students made to wear blinkers during exam



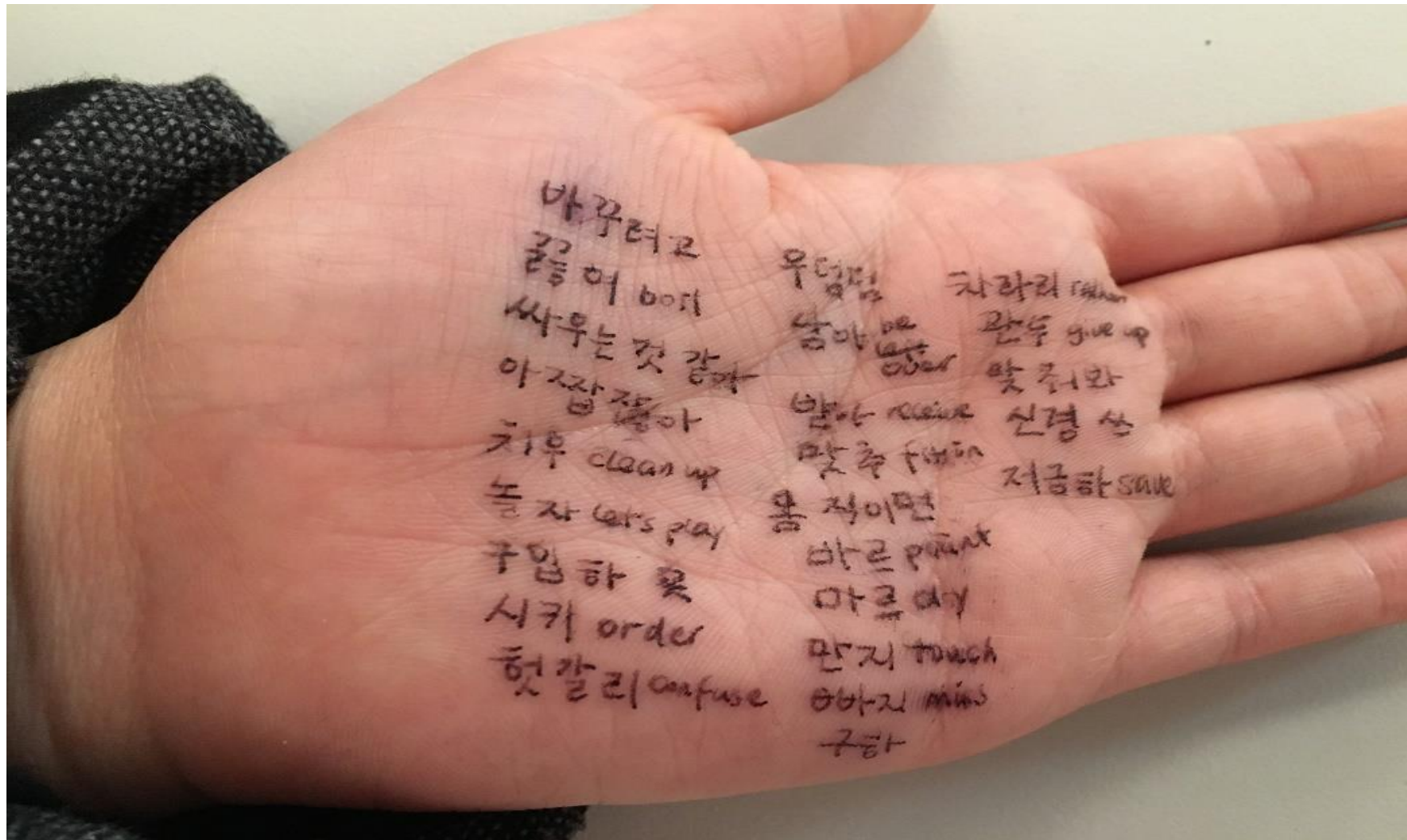
Kasetsart University, Bangkok – Courtesy HuffPost UK

Common cheating methods

Concealed notes



Writing on the body



Examples of notes – often on very small pieces of paper

artificial network components

- crash-based and proactive approaches M
- Right-of-way design 1
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artificial network function

to facilitate traffic movement

- Carries the broadest range of road users from large trucks to transit vehicles to pedestrians and cyclists
- Provide link between local access and regional road
- Focuses on movement which mean that allows vehicles mainly to travel across one place to another. Hence that is why arterials are built with multiple lanes
- Provide sufficient capacity to provide movement in an acceptable LOS

artificial network function (road type)

1. primary roads include highways and urban arterials
2. district distributors are roads that run across a significant portion of area, linking primary roads and the local street network

prime design requirement is to provide sufficient capacity to provide for traffic more at acceptable level of service 3

Local street network (function) is to

provide access (freeway) is determined by the need to satisfy multiple performance criteria and constraints to keep vehicle speeds and volumes to nominated levels (street type) - the access streets (the local distributors) provide access to buildings and land within the residential area, whereas the local distributors form the link between arterial network and access roads

Access street design requirement

1. Low connectivity (local street routes should be discontinuous or indirect to minimize non-local traffic.)
2. Local streets should be of low volume.
3. Excessive speeds in residential areas are discouraged by avoiding long streets.
4. The local street should be limited to a maximum length of 200m.

Basic stages of a Traffic Impact Analysis

1. Describe the proposed development
2. Define the study area (local road)
3. Describe the existing conditions
4. Site trip generation
5. Site traffic distribution & assignment
6. Assess
7. Conclusions

outputs from the major analysis

- Traffic volumes, capacity, level service, safety impacts and delays.
- major components of TIA
- *trip generation is the decision to trip for a given purpose, to forecast 1 target-year trip-ends by travel purpose for each zone within the region
- *modal split, is developed to be divide the total flow between mode
- *trip distribution results in the number of trips generated by the analysis.

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Road hierarchy (good design) 18

road hierarchy models 2

Road hierarchy types 17

road safety engineer (role) 41

road type define 17

Road hierarchy is expressed through design standards

Road network design should never be undertaken until the desired road function classification is known

Good design:

- Controls speed of vehicles (not just through speed limit)
- Controls volume of vehicles
- Design speeds should match desired driver behavior
- Residential area planning
- Residential areas are lower on the road hierarchy
- Access / amenity function should be given priority over movement function
- Important to consider interaction with arterial network
- consideration for residential areas
- Bottom-up design
- Considerable design / freedom compared to arterial / freeway networks

Identify Stakeholders include 54

Importance of TIA: 48

Information processing and signage 25

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intended function 1

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Land-use (negative impact) 23

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Road space allocation (cross-section)

- 1 lane encourages slow travel
- 2 lanes encourages faster travel
- Wider lanes encourage faster travel
- but may be needed for bus / garbage truck access

Grid system

Historic neighbourhoods

High connectivity (more direct)

Intuitive navigation

Multiple route choices

Harder to impose hierarchy

More 4-way intersections

Tributary system

Newer developments

Lower connectivity (more indirect)

Non-intuitive navigation

Route choice imposed

'Natural' hierarchy

More T-Intersections 20

The reasons for classifying roads

- all road planning, design and operation
- because roads have different purposes (access and movement)
- establish policies to guide management of roads
- establish routes for particular user types (e.g. cyclists, heavy vehicles)
- What are the three road hierarchy models?

Conventional/classical model, separate functions model and integrated roads/

What is a 'separate function' approach to road classification?

Roads are assigned to one of two categories, either a category of vehicles or access to adjacent land uses

A third approach is the concept of 'integrated' roads which promotes the integration, rather than segregation, of movement and being activities in all parts of the road network 2

Reserved lane

- Bus lane Right-Of-Way
- Take a lane away from the road traffic
- Low impact on traffic as bus need to overtake
- Impact when traffic is turning left
- May cause more congestion on road
- Although justified when bus lane carries as many people as the cars in traffic
- Traffic speed priority
- Onset of traffic lights come nearly 50% of delays experienced by transit vehicles
- Reserve need times
- Increase signal timing
- Traffic lane is not longer
- Bus ahead of traffic slow speeds and stopping upstream may block slow cars who overtake
- Priority to public transport

Priority is given to public transport in road design as they are larger people-movers than private vehicles. A vehicle such as a train or a bus is able to carry far more people than what a private vehicle is able to carry. Furthermore these vehicles serve the public rather than the individual therefore the priority is given.

Urban trucking Problems 69

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access function

- allows ability to enter or exit an abutting property easily
- making a location pleasant to be in
- 'classical' or 'conventional' road classification
- classifying roads along a continuum from those that provide the most movement to those that provide the most local access
- functional classification
- the classification of the purpose (not use) of a road according to its intended function
- integrated roads
- the concept that roads must integrate the movement and access function

Two broad context (human factors)

Designing safer "fast roads"

- Driver must have sufficient time to react
- Design road system to make information easy to process

Designing safer "slow roads"

- Self-spacing
- Self-explaining roads

Reaction time (RT) is the time for a driver to perceive and react to a particular stimulus

appropriate action

Four component (RT)

sensation/perception (decision-making/volition)

Sensation

Amount of information humans can sense depends on visual field and eye movements

Secondary arterials

4 lanes

Operating speeds 60km/h (or lower)

Greater integration with land use (e. strip shops, driveway)

On-street parking / clearways

Primary arterials

4+ lanes

Operating speeds 70-80km/h

Greater separation from land use (e. slip roads)

Off-street parking

Traffic control device (function)

- Regulate traffic by assigning priority right of way
- Warn motorists of hazards or control ahead
- Guide traffic

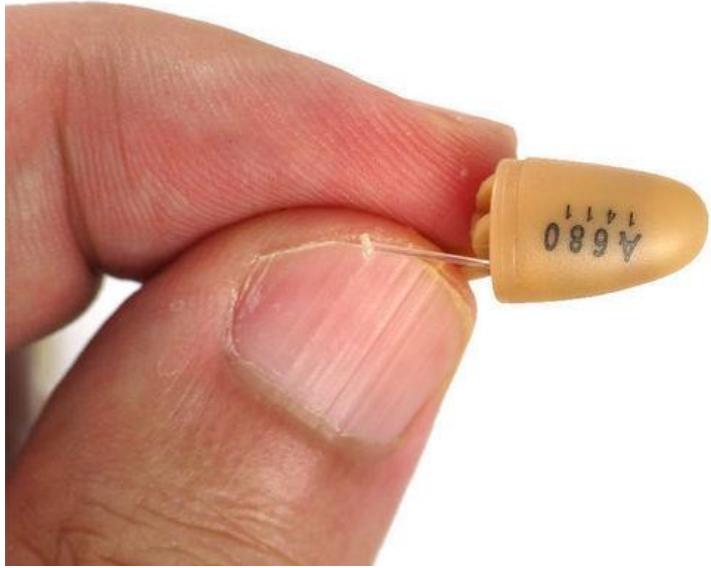
Technology creating alternate cheating options

Once we were worried by this



but now with technology we face...

1. Camera pen & ear piece

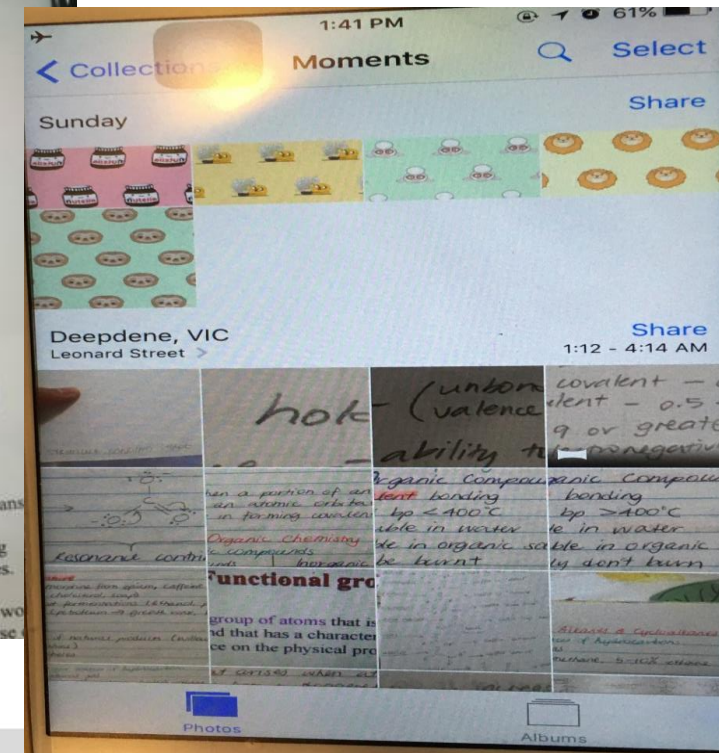
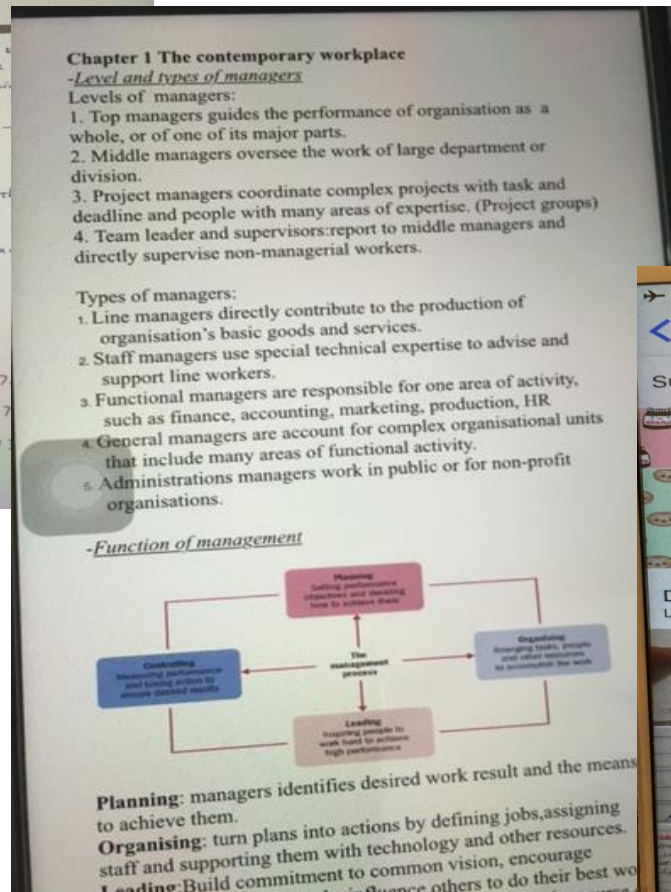
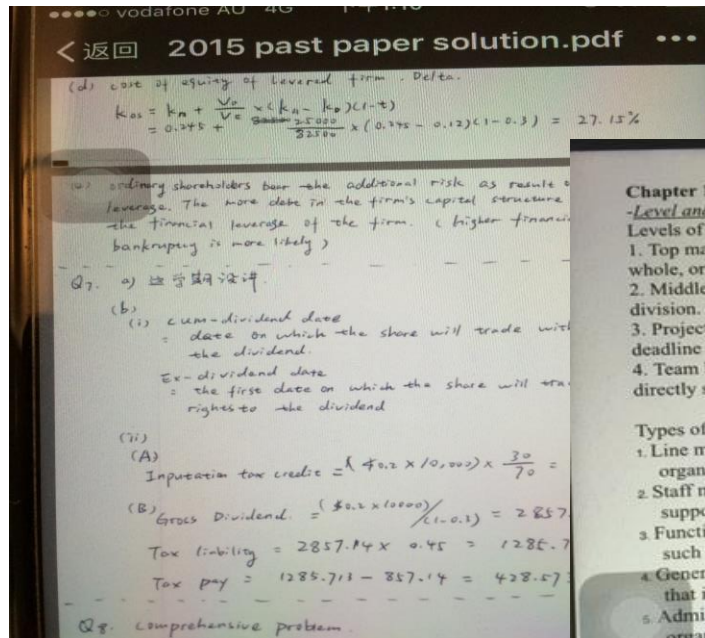


2. Glasses with camera & transmitter

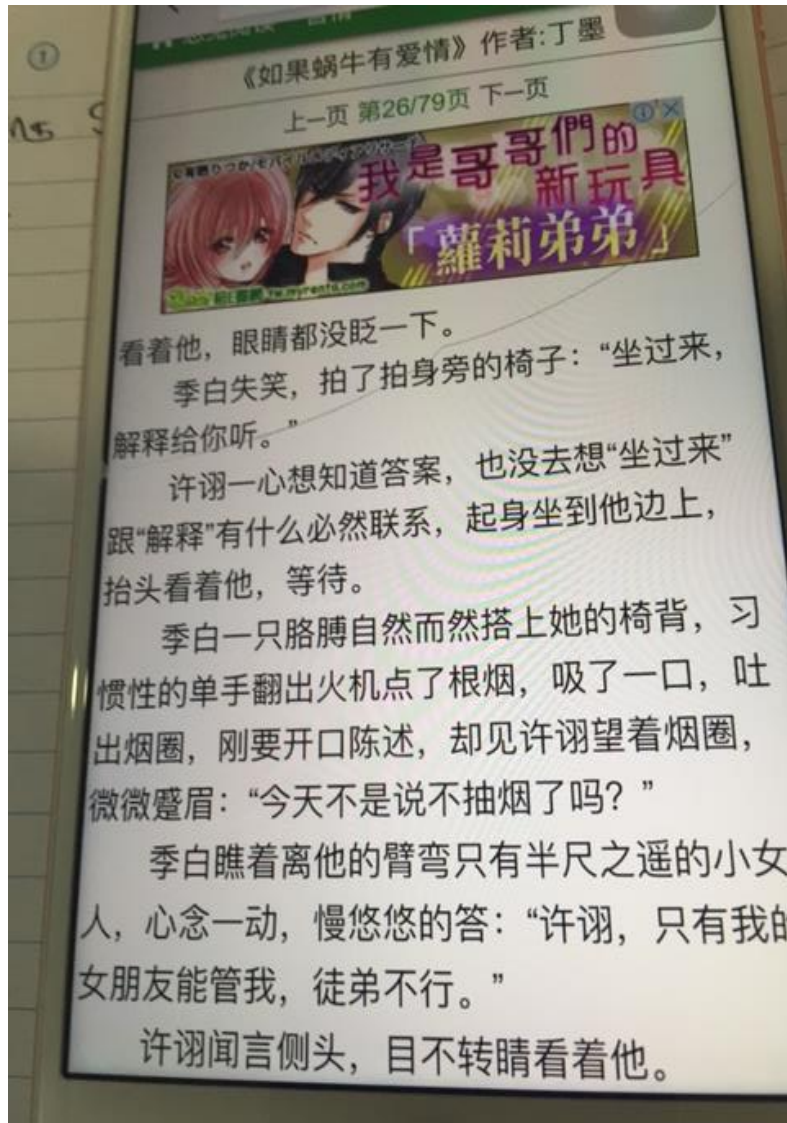


Google glasses could be more of a concern!

3. Data stored on mobile phones



4. Data in foreign languages



Written notes in foreign language isn't new but operating some of the newer smart phones are complex enough in English!

5. Moodle access

Learning and Teaching systems

At times, students are caught accessing Moodle while in the exam which can be detected by academics observing students logging in.

Potential solutions

- Monitor moodle accounts, how much resources would be required?
- Turn off moodle for specific exams, won't students just save images on mobile phones instead, possibly without getting caught?



Some suspected cheat case incidents

Attempts to get away with it...

Suspected cheat case one

- A student was found in possession of a note on their desk
- When confronted, the student ate the note in front of the invigilator
- Under the policy in place at the time, the notes were required as part of the evidence for a misconduct case
- The student got off without any repercussions

Outcome

The policy was changed after this incident to allow students to be charged with misconduct, even without the unauthorised material as evidence

Suspected cheat case two

- At the end of the exam a student attempted to enter the toilet but was asked to use external toilets
- The students' behaviour became desperate, which raised suspicion
- Invigilators did a thorough search of the toilet area and, lifting the lid of a cistern in one toilet observed a sealed plastic bag at the bottom with a mobile phone and notes inside
- The student had placed it there at the beginning of the exam

Outcome

- The student received a '0' mark, and was suspended for six months

Attempts to get away with it cont...

Suspected cheat case three

Notes were found in a toilet bowl after a student had left the cubicle

- The student knew the invigilator had seen the notes and went back to his desk
- Shortly after, the student said he had 'chest pains' and the Nurse attended
- Due to the nature of the students complaint, an ambulance was called
- Obligated paramedics took the student to hospital for observation and tests

Outcome

The Faculty charged the student with Academic Misconduct, but the student was given the benefit of the doubt and found **not guilty** as he said the notes were already in the toilet when he entered, and there was no direct evidence that they were his.

Repeat behaviours

Next exam period, the same student was observed accessing Moodle during two different exams by academics, and was **excluded** from the university.



Validating the student identity

It's not difficult to pay someone to sit an exam using a fake ID card as shown on the SBS documentary the Feed, 'pens for hire' —November 2015

<http://www.sbs.com.au/news/thefeed/article/2015/11/05/pens-hire-how-students-cheat-and-how-they-get-away-it>

Proactive response

Feb 2016

A 'pen for hire' attempted to sit an exam with a fake ID card

Solution











Student images available in conjunction with ID cards in venues

UNIT CODE: NUR1112 - Fundamental skills and knowledge for nursing and

VENUE: CAULFIELD RACECOURSE LEVEL 2



EXAM DATE	START TIME	VENUE CODE	ASS ID REFERENCE
Mon, 12 Jun	09:30	CRC 2	14105 / PAPER 1

	Seat: 2001 Person ID: Surname: Given Names: Present: Absent:	Campus: CLAY	Seat: 2006 Person ID: Surname: Given Names: Present: Absent:	Campus: PENIN	
	Seat: 2002 Person ID: Surname: Given Names: Present: Absent:	Campus: PENIN	Seat: 2007 Person ID: Surname: Given Names: Present: Absent:	Campus: CLAY	
	Seat: 2003 Person ID: Surname: Given Names: Present: Absent:	Campus: PENIN	Seat: 2008 Person ID: Surname: Given Names: Present: Absent:	Campus: CLAY	
	Seat: 2004 Person ID: Surname: Given Names: Present: Absent:	Campus: PENIN	Seat: 2009 Person ID: Surname: Given Names: Present: Absent:	Campus: PENIN	
	Seat: 2005 Person ID: Surname: Given Names: Present: Absent:	Campus: PENIN	Seat: 2010 Person ID: Surname: Given Names: Present: Absent:	Campus: CLAY	

Total Attendance: Total Absent: PACKED BY: BAG OF

DATA EXTRACTED: 09-May-2017 at 09:55 AM

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Monash academic misconduct

Misconduct procedures

Academic misconduct

- 30 – 40 students are charged with Academic Misconduct offences each exam period for attempting to cheat, or cheating in an exam.
- Exam Services interview the student with a student rights officer present and report the incident to the faculty who convene a student discipline hearing.

Guilty verdict - possible outcomes

- Reprimand
- Failed exam
- Failed unit
- Suspension
- Exclusion
- Record of guilt on file

General misconduct

- In addition, around 70 students are charged with General Misconduct for being in possession of a mobile phone each exam period. In these cases, there is no evidence that the students were attempting to cheat.

Guilty verdict

- Fine \$156
- Record of guilt on students' file

Exams in the future

Summer 2015 online exam pilot

- 200 students
- 3 units Law, IT & Marketing

How will online exams change opportunities to cheat?

1. *Typing usually required two hands vs one hand to write*
2. *System can record and report inactivity*
3. *Browser locked down*



(photo of an open book exam, with students accessing their own hard copy material)



MONASH
University

Questions