Submission No 10

DRIVER EDUCATION, TRAINING AND ROAD SAFETY

Name: Mr Vince Sunter
Organisation: Advancing Projects Pty Ltd
Date Received: 19/01/2017

This is a preliminary advice that a project for a totally new approach to driver training is under way in Newcastle NSW. Coincidentally this Enquiry was announced 3 months after the project kicked off last August. Whilst I was not intending to make a public announcement re the project this soon after commencement, the holding of the Enquiry illustrates the time is right to raise the bar an order of magnitude on our societal efforts in this area and I expect the Committee would at least like to have an understanding of what is coming in this space.

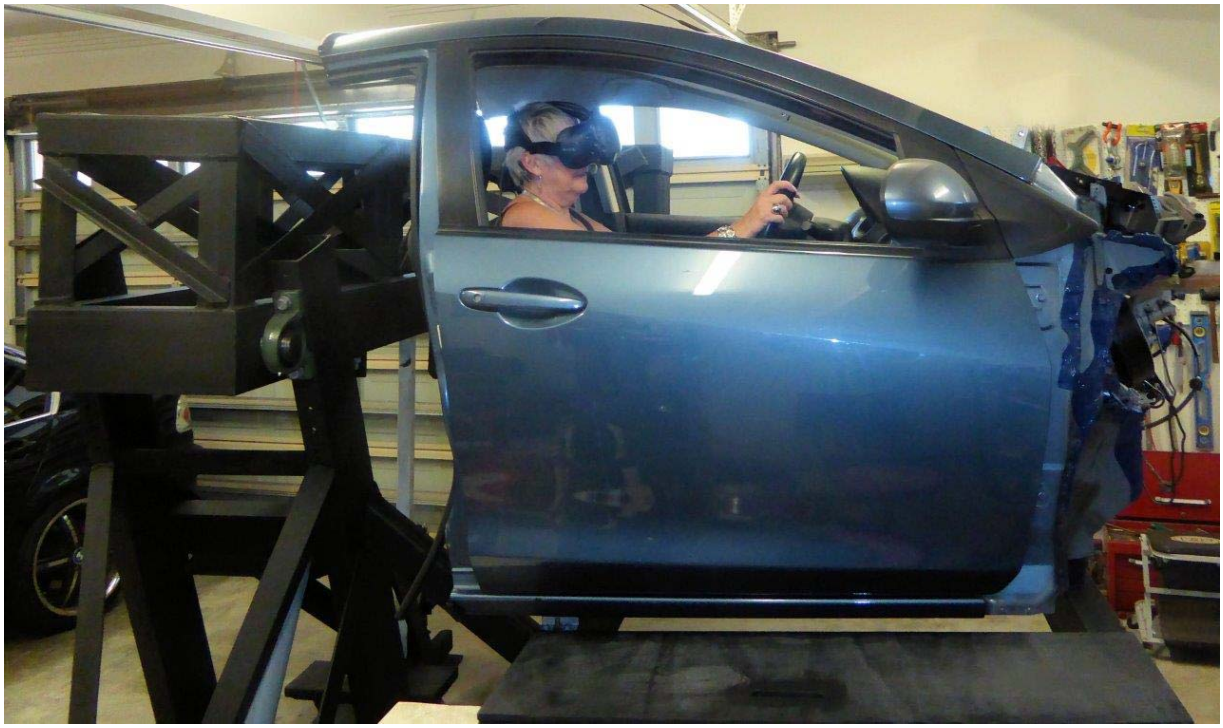
The current project is driven by my personal desire to directly cut at least 20% off the road toll (ie above what better roads, vehicles, etc produces), and the mechanism to do this is well in hand. In short, the method is via economically delivering top class simulation training experiences simultaneously to large quantities of people in a way that the lessons learned have a high likelihood of retention. Target cost is $30 per training session, probably about 10 sessions required across the red / green P plate period. Great potential for use with repeat offender programs, senior licence validation and (heaven forbid) population competency testing and development! As well as entertainment and many other spin-offs. Plus it has great export earning potential.

Right now, the proof-of-concept prototype is 90% constructed and should be finished by late Feb. At least 6 months of development work will follow before potentially rolling it out to a trial installation; there are a lot of possible pathways to this. More details will follow in a later submission, once I have the patent lodged (and time to prepare it!), as to declare details in the public domain prior to lodgement is not happening. But please do ring me on 0414 706 875 and I am happy to talk details, but only if the caller has a substantive role in the process, ie beyond mere curiosity - for that you can check out www.driversim.com.au, which has a teaser for now and info will get posted there once the patent is lodged.

Some background: I originally put a confidential submission to the then RTA in June 1998 seeking support for this idea, which they were very keen on, but were not able to provide any support at that time. In the intervening period the idea has stuck with me, technology has solved some potential problems and finally, in mid Aug 2016, I decided to dedicate what meagre resources I had to making it happen, or at least developing a solid body of knowledge for others to take further. I am a professional mechanical engineer with deep skills and experience; this project is largely driven by altruistic intent plus a bit of "because I can, I should" ethics, but of course to succeed it must be delivered via a viable business model, which I also have a lot of experience with.

Whilst the timing means this project will not be presented to this Enquiry as a mature technology solution, all the key technical hurdles have been cleared and it won't be long before it is. Anybody that looks at what is happening here soon concludes that this is the one that will actually break through the dross of ineffectual solutions of the past and get genuine outcomes for the population. Plus what a cool export business for the country; Australia takes 3 months to send off a jumbo jet load of citizens to meet their maker on that great car crash of life, but the Americans do it fortnightly and the Chinese are doing more than one a week. The technology is highly portable between cultures - what it comes down to is developing the right "lesson plans", and there is a whole science around that, also built into this new approach to driver training....stay tuned, there WILL be more....

FEBRUARY 19, 2017



DRIVER EDUCATION, TRAINING & ROAD SAFETY INQUIRY SUBMISSION

To NSW Parliament Staysafe (Joint Standing Committee on Road Safety)

PRESENTED BY: VINCE SUNTER
(Director)

ON BEHALF OF: Advancing Projects Pty Ltd

DRIVER EDUCATION, TRAINING & ROAD SAFETY INQUIRY SUBMISSION

SUMMARY

A project for a totally new approach to driver training is well under way in Newcastle NSW; it was formally kicked off in August 2016. The details are published on www.driversim.com.au.For clarity, the relevant pages are attached to this submission as Appendices.

The project is driven by a strong personal desire to directly cut at least 20% off the road toll (i.e. above what better roads, vehicles, policing, etc. produces). The method is via delivering highly realistic driving simulation training experiences economically to large quantities of people in a way that the lessons learned have a high likelihood of retention. So, people make better choices, in the same way as we observe close calls and actual accidents that don't kill people influences what they do thereafter.

Expected delivered cost is $35 per simulator training session, with most probably about 10 sessions required across the red / green P plate period. Great potential for use with repeat offender programs, senior licence validation and the meaty topic of population competency testing and development. As well as entertainment and many other spin-offs. Plus it has great export earning potential.

Right now, the proof-of-concept prototype is fully constructed and in the fit-out stage, which will take a month or two. Six months of development work will follow, before potentially rolling it out to a trial multi-berth installation. Just to handle new licence issuing in NSW, it is envisaged would require twenty 15-berth simulator centers scattered around the country.

The prototype is being built from within the inventor's personal (scarce!) resources. There is a plan to fund the full roll-out, but that depends on income streams not yet secured. Regardless of exactly what happens there, the Committee may have an interest in ensuring that this project advances at an accelerated rate, and ensure impediments for integration in the licensing system and funding do not prevent advancement of the project and implementation in the best possible way.

There will be many "hold" points along the way. From the inventor's perspective, the first key deliverable is to demonstrate the ability to drive around in a Need For Speed environment, or similar, and believe it is actually happening without any (or much) tendency for simulation sickness. Whilst it is notoriously unreliable predicting the timing of R&D style projects, it is hoped this milestone will be reached by July 2017. When this has been achieved, it will allow interested parties to try it first hand and make well informed decisions about the extent of involvement and/or support going forward.

DOCUMENT STATUS

This submission document is provided with the intention it be available for public release by the Committee as desired. Also, provided separately, is Provisional Patent 2017900314 document, which is not intended for public release at this stage, and is to be kept confidential unless notified otherwise. It is provided here to give the Committee a clear illustration of the depth and substance behind this project. The document needs a formal review by a patent lawyer prior to release, and it may be ten months before funds are available to do that as part of the formal full patent lodgment process.

PRIOR SUBMISSION STATUS

On Thursday 19th January 2017, an interim submission was provided to the Committee to give prior advice of this initiative. That submission is now obsolete as all the content is dealt with herein, or deemed irrelevant.

BACKGROUND

The inventor, now a 59yo professional mechanical engineer with deep multi-disciplinary skills and experience, originally put a confidential detailed submission to the then RTA in June 1998 seeking support for this idea. The RTA were very keen on the concept, but were not able to provide any assistance at that time. Since then, technology has solved some potential problems and finally, in mid Aug 2016, the decision was taken to dedicate what meagre resources were available to making it happen, or at least developing a solid body of knowledge for others to take further.

This project is largely driven by altruistic intent, plus a bit of "because I can, I should" ethics. To succeed it must be delivered via a viable business model, which the inventor also has a lot of experience with.

Whilst the timing means this project will not be presented to this Inquiry as a mature technology solution, all the key technical hurdles have been cleared and it won't be long before it is. Anybody that looks at what is happening here soon concludes that this is the one that will break through and get genuine outcomes for the population.

The technology is highly portable between cultures - what it comes down to is developing the right "lesson plans". There is a lot of quality science around that already, plus more built into this new approach to driver training. Please refer to Appendices for details.

CURRENT STATUS

The project is proceeding very well, and the status of the prototype and surrounding activities is instilling a high level of confidence that all this work is going to achieve the intended outcomes. Details are on the website and will be added to intermittently.

A really careful review of the budget and detailed implementation process has been conducted since the interim submission was provided a month ago. For a long time, the target was delivering this training for $30 / session in the context of a compulsory driver training program, but it is now clear that figure needs to be $35 / session. This is partly because some costs will be more than expected and additional costs for security and the like are going to be incurred, but mainly because it has been decided two operators need to be on site at all times; one doing oversight / maintenance tasks, and the other running supplemental classes / “handling” students in the many ways that may be needed.

There is a high degree of confidence that the figure of $35 / session can be delivered, with the only critical assumption being that high simulator module occupancy rates will occur.

NEXT STEPS

There is quite a body of work to do, but in the next month the remaining hydraulic fit-out issues will be resolved and get the simulator moving as intended. Then will come the electrical control and protection systems fit-out, which will be another 1 – 2 months. That should get the prototype properly responding to input from steering, brake and accelerator controls.

Next comes the PC interface, which will be straightforward to do but the challenge will be to properly calibrate the simulated and real motion. This is not expected to be problematic because of the techniques being adopted to implement it, but is an area where fine tuning can take a while, given this is THE most critical aspect to ensure a low propensity for simulator sickness effects.

"Success" will be when a subject can drive around in a Need for Speed environment, or similar, and believe they are really there without any / much tendency for simulation sickness. Also, demonstrate use with appropriate training software, such as www.carsim.com/products/index.php, www.3d-driving.com and www.stisimdrive.com/products/; there are many more. This is the gold star achievement for the project, as everything after that is simple. Once this can be demonstrated, anyone that tries it will be hooked on this as the exceptional solution it is totally expected to be.

Just earlier today, the inventor was talking with an electronics technician who had spent a lot of years working on and with high end simulators, and he loved the details of this project. He formed the view all the surprises coming were likely to be to the upside. Good news indeed, from one who knows!

Of course, then the REAL work starts. Behavioral experts need to sort out lesson plans and develop implementation strategies. Many initial thoughts exist around how this may best be done, but nevertheless it is a job to do. In practice, what a team approach would do, is sort out one really effective lesson to underpin and validate implementation plans, and build depth from there.

As the above activities progress, it will be evident that it is just a process to go through, and planning for the first full rollout multi-berth simulator system can begin. This may be as part of an optional pathway to licensing if the RMS is being helpful, or in the absence of that it will be commercialised as a complementary training method to conventional driving schools.

Taking this one step further – read the About Us page in the Appendices, and you will get the idea of the depth of the convictions here. Past performance indicates that getting the scenario outlined to happen is totally doable. What isn't known, is whether a submission to a Parliamentary Committee will actually provide any substantial help along the way? We live in hope…!

FUTURE ROLLOUT DISCUSSION / ASPECTS

To set up a full 15 berth two operator simulator center in a rented warehouse is estimated at $703,000 to establish and $880,000pa ongoing to operate. The operational cost includes reasonable finance costs, depreciation and a 10% contribution to ongoing R&D development, as well as all the costs to operate and maintain such a facility. No RMS costs are included, as there shouldn't be any! Just electronic reporting of attainments, much like pink slips. The simulator technology is totally suited to motorcycle implementation, but that is not an initial area of focus.

Re that "critical assumption (re) high simulator module occupancy rates", for a 15-berth simulator center operating 5 days a week, 48 weeks a year and delivering 7 sessions per module, that is 25,200 sessions pa. Divide the operating cost by this gives $34.92; hence the $35/hr expected charge-out rate.

In practice, simulation centers will run longer during the day and weekends, and more total sessions pa will accrue. Operational experience may find that a practical max for a simulator session lesson is 15 minutes when the limit for what a person can learn in a lesson is hit, or sickness rates start to climb, or any other reason. Three sessions per hour could be viable, especially if supplemented with classroom learning. Or maybe it will be 10 minutes' simulator, half hour in class and 10 minutes back in simulator, so two sessions per hour can be accommodated. In either of these scenarios, only the variable costs increase (and a rock solid electronic scheduling system would be needed! Plus a strict maintenance regime), so more net funds get generated to increase the R&D component going forward.

The current intention is that the set-up and operating funds come from the inventor's other engineering business endeavours, when they bear fruit. They come from an innovative way to achieve a massive boost in productivity and throughput in the mining industry. A proof-of-concept prototype has recently been installed and is working successfully; it will be regarded as "proven" in ~May 2017, so major projects should flow. But nothing happens quickly in mining, so a very unpredictable process!

If personal funds provision in a timely manner is problematic, alternative sources will be explored. There is ZERO chance entrepreneurial funds will be accepted as the preference is to wait rather than see any pressure to push service delivered pricing beyond what is set out above.

Bank funding is a possibility, potentially needing govt guarantees as securities could be a problem. But first, exploring sponsorship style of support and altruistic donors, as well as looking to crowd funding for the latter – perhaps with the sweetener that the one or two-axis continuous 360-degree versions mentioned in the patent would also be built, and they could run whatever VR software they liked in it, up to the value put on their contribution. If the total sum of the initial investment was increased $100k should cover building this, and sell time share at a rate that covers the building of all the rest as well.

Note funding options above haven't been thought through in any detail, as the expectation is to self-fund. If timing of said funds is a problem, serious proposals will be formulated to deal with the desire to not see progress impeded by funding scarcity. Now that the "Go button" has finally been hit and the base assumptions tested, nothing is going to stop it. Success with tricky projects has been a pattern of life for this inventor, who needs to point out these are not lightweight statements or ego driven pronouncements, just an engineer telling it like it is, and you know how engineers so love to do that!!!

POTENTIAL EXCEPTIONS AND PROBLEMS – A REALITY CHECK!

Let's face it, being a one-man endeavor is risky. The person driving the core technology needs to stay in good health and not have an accident. Picking up the pieces of this to be carried on by another with little or no handover would be hard, if that day came. It MUST be recognised this is ultimately only a hobby, albeit one that a passionate interest exists in making a difference to the world by its pursuit.

The tasks of the core engineering partnership business need to be attended very diligently, as that is where funding is expected from to roll this out. Burnout from the extreme volume of tasks being taking on is a hazard and vulnerability exists to recognising the need to take a break, and just doing it! Which should be fine, but delegation with oversight and ongoing progress is the better alternative.

To reiterate the point above, the other main risk is that endeavours in the mining innovation area may not yield the expected returns, and funding the expansion of the simulator project when it is ready to go is at risk. Probably, this won't happen, but the timing of future funds is quite unpredictable. When the simulator technology is mature, it needs to be being rolled out; not waiting for funding / attention.

WHAT CAN THE STAYSAFE COMMITTEE DO TO SUPPORT THIS PROJECT?

Of course, the Committee is welcome to make any decisions it likes here, but it is suggested activities that have the RMS looking at how they would integrate this sort of technology into the licensing system would be helpful.

Also, anything the Committee may be able to do in the form of recommending that people or entities support this initiative by donating / contributing to the endeavor. Initially, any funds received would be spent on professional services to relieve the one-person bottleneck in getting every little bit to work "just so". After that, it would be sensible to construct a prototype of "the rocker" (see patent docs) as there is no way the inventor is personally fabricating another one of these things! However, the rocker design is the one more likely to be rolled out into the multi-berth centers, so it would be an avoidable delay whilst what has been learned from prototype 1 is transferred to the rocker and checked in detail.

APPENDICES

Pages printed out from the website www.driversim.com.au as at 18/02/2017;

Note the domains www.vrdriversim.com.au and www.vrdriversim.com point to the same website, mostly to ensure confusion didn't arise in the event an unrelated entity used these other domains. The below pages follow as Appendices:

https://vrdriversim.com.au/2017/02/12/summary/ Precis of what this project is all about

https://vrdriversim.com.au/about-us/ A look at the future, and current, Us

https://vrdriversim.com.au/moki/ Prototype construction detailed photos

https://vrdriversim.com.au/reference-material/ Downloadable docs with comments re relevance

https://vrdriversim.com.au/history/ The long and winding road that got us to this day…

https://vrdriversim.com.au/supporters/ Some great companies already pitching in with cash and kind

https://vrdriversim.com.au/help/ the "making donations couldn't be easier" page

VR Driver Training Simulator System

Learn how easy pranging a car is, so on the roads you will try really, really hard to not do it!!! And develop some useful skills to help you succeed...

So, What's It All About, This VR Driver Simulator Training Thing?

In short, the first big goal is to knock 20% off the road toll. It could be a lot more, but this goal is clearly achievable by tackling the very important "operator error" issue component of the road toll head on.

There are two principle reasons experienced drivers have a lower serious accident / death rate. One is that they have had close calls or actual accidents that didn't kill them and they change things about their behaviors going forward. Exactly what / how that happens is not quite clear, but it is well understood that fear changes behaviors, and anyone that has been in serious accident / close call situations experiences fear at high levels.

Fear in accidents comes from the surprising and unexpected nature of how "the situation" arises in the first place, and the graphic reality of how hard a hit it is when vehicles actually collide, which is pretty traumatic for anyone that goes through it. Plus there is the pain and discomfort, extreme inconvenience around all the circumstances of time off work / holidays, lost income, etc. And the sudden inability to fulfill your intended life commitments to friends and family. This all comes with the "bonus" sinking feeling of knowing that possibly YOU were the one that made "this mess" happen, and

you injured others too, maybe more than you. Or the sorrow of just knowing how "unlucky" you were.

Oh yes, and you, or them, might be DEAD. Or vegetative. Or totally immobile. Or just injured in a way that living life generally how it was is a total impossibility. The future is a very different thing now, and money won't fix it!!!

The other reason experienced drivers don't have accidents is that they are just very careful people. Some are born that way and NEVER have accidents. Good on them – is this 5% of the population, or is it less? For the rest, we have fear! We KNOW how bad accidents are, and really really don't want to be in another one / "that close" again. So we join the ranks of the careful people and see situations arising sooner / make different choices going forward. And our "luck" improves markedly, as we keep out of other people's mistakes.

This driving simulator training project is going to "cut out the middle man" and unashamedly intends to scare young drivers in ways that will get them to make better choices going forward, shunting them straight into the "careful drivers" box. Extending this to repeat offender programs, elderly licence holders or, shock horror, the general population for ongoing competency testing, where the right to hold a licence is a genuine privilege not a right, are all possible applications of this technology. As are many other training / entertainment scenarios and vehicle types.

If we were setting out today as a society to issue licences to people for the ongoing right to operate a device that could kill people easily, how would we do it? The devices are called "cars" and historically we have set up basic ability to operate / know the rules tests, and we make sure an "experienced driver" spent time with the novice. The way we (mostly) check how that is all going is by hiding (or not) speed testing devices and keeping score of how many times the subject got the wrong numbers. We rely on this system for the rest of the subjects' driving lives, and we are a bit shaky on the smartest way to say it should end now.

Alternately, as a society, we certainly should ensure those physical skills and rules knowledge exist, plus useful to have insights from more experienced

drivers regardless of any particular baggage that may come with that, but as far as the ongoing aspect is concerned, have we got it covered? Not a chance! Highlighted by the simple fact that every single driver, closely observed, would lose their licence on every single trip they make according to present rules – and this is only counting each category of speeding once! Far better to have more credible ongoing testing which, once a person has been through it and passed, an appreciation of and acceptance of the rights and realities of other road users would make those extended the privilege of a driving licence much less likely to have accidents. This is the "gold star" goal, and the society that can do that is likely to see a tenth or less of the prior road toll – can we get there?

Of course for a society to change directions is no small task. We have become addicted to the revenue raised from speed cameras and enthusiastic "what quota, is there a quota?" policing. And woe betide the politician that would suggest that driving licences should be issued against a higher standard, and really do it! Once the existence of a viable methodology is proven, hopefully the maturity exists in society to have the discussion about revenue sourcing and true causative factors behind the road toll, and actually get some alignment of effort.

The design of this simulator is founded on some very solid and previously undiscovered fundamentals of simulator design. Basically by the inventor, a mechanical engineer, looking at what we are trying to achieve here, and approaching it from a completely different perspective to efforts by others. That simulator design has progressed more than 20 years after this concept was first developed without anyone else coming to the same realisations is somewhat surprising, but testament to the evolutionary nature of this approach. Ultimately, this simulator is only a tool, and getting changed behaviors is all about "the lesson plans". Of course there are some strongly held views informed by personal experiences, but it is a body of work to scientifically determine what techniques are the most effective in achieving long term outcomes.

The above barely scratches the surface of this meaty topic, but gives an insight to the mindset behind this initiative. This driver training simulator project will take new drivers and put them through realistic driving training scenarios

based on human psychology to train them to make different, better choices when it comes to driving motor vehicles on the roads. This will be done in an affordable practical way that works at population scale. For example, to roll the program out in NSW Australia would involve 20 simulator centers with 15 berths each, with a projected cost of $35 / session. Ten sessions over some months are anticipated to get maximum benefits. This is world ready technology and no reason, other than practicality of the initial roll-out phase, to limit it to one country – just a task of adjusting lesson plans to suit cultural norms.

Now that provisional patent 2017900314 has been lodged, this website will be populated with information about this project. Please be patient as the reality is this whole thing is being driven by one person, me! Hopefully, as more info is provided and people can see what is going on here, an irresistible desire will arise to join in with substantive contributions to assist where possible. Some of my professional friends already have, more on that later. Thank you in advance for your interest and support.

Share this:

VinceS / February 12, 2017

VR Driver Training Simulator System

Learn how easy pranging a car is, so on the roads you will try really, really hard to not do it!!! And develop some useful skills to help you succeed...

About Us

We are passionately going on a journey to reduce the road toll by at least 20% on a population scale basis, using a global simulator technology especially developed to be used by large volumes of people in a short period of time. This virtual reality driver training simulator system is an evolutionary improvement on previous simulator designs, developed over 20 years to economically provide highly believable simulation experiences, but with much reduced likelihood of simulator sickness sensations.

We want to ensure benefits in reduced deaths and injuries flow through to communities quickly, so death and injury rates plummet and the drain on medical systems is significantly lightened. Sorry about the unemployed undertakers of the future, but you always knew we wanted it that way...!

This is THE MOST EXCITING development in road safety. Ever. Everyone that reviews the details is convinced this is THE ONE that could actually do the job, because it will!!!

In time, this rough text will be replaced with something beautifully polished describing our many wins and how the team is doing a great job of rolling out our thirteenth multi-berth simulator system in Australia and how already we have cut accident rates to a fifth of those experienced by people not using this

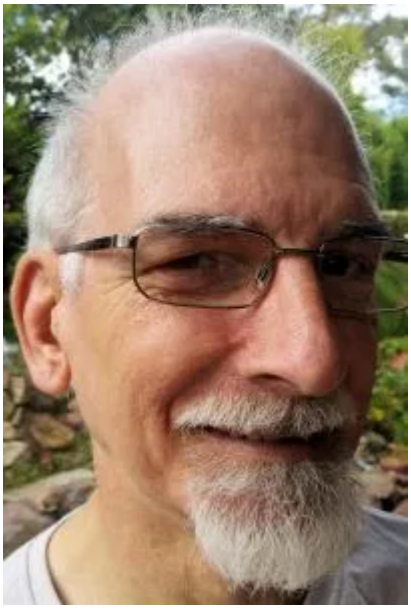
technology. Also about how we have two centres due to open in the USA shortly and are working on British centre for next month, plus are mid-way through converting the lesson plans to suit the cultures of 10 other countries, all of whom are well through the process of building their simulator centres. The date should be somewhere in 2019, but late 2018 is not an impossibility for this scenario, with the right support.

But that is then, when it is all about the truly great team we have passionately rolling out and continuously improving this great innovation. This is now and, while I don't want it to be, for now, it IS all about me, Vince Sunter, the inventor!

So who is this bloke? Born a Pommie and sailed to Oz before age of 7, naturalised in '87. Read the History page which hopefully gives a feel for it, if you need a cure for insomnia. Helpfully for any "driven man", I have the wonderful woman Kellie by my side being fantastic support – you will see her in some pics. We have been engaged for over a year and hope to get married when we can, probably mid 2018 is our guess re how long before life's plans will let that happen, in a good way.

I do get "the mad professor" tag every now and then. However, whist I can definitely baffle people with detail, I am far better grounded than to let that be a trait (although it is so nice to work with people that can keep up with my mutterings!). Thankfully it is the diverse skill set that let's me tackle an exercise like this with the utmost confidence. I haven't had "a fail" yet, and sure won't be letting this become one! The more I do of this the more absolutely convinced I am that all issues coming are solvable as "the stoppers" are all sorted now. Unlike most technical types, I have such a solid grounding in real world commercial aspects that I am well able to steer / get this thing to real answers with substantial outcomes.

If you graze my LinkedIn profile you will see I got my start in the Pt Kembla steelworks and went on to run some pretty complex and challenging technical projects in a multitude of industries. I had a few lucky breaks early on with the actual tasks I took on; I had great mentors and learnt (by doing) that there is NOTHING you can't achieve, and seriously changing the world in a big way is a snack with the right people involved. I am one, the others are coming – if you are one and you know it let me know too – I am happy to chat, but please be patient as timing / diffusion of effort at critical stages matters!



VR Driver Training Simulator System

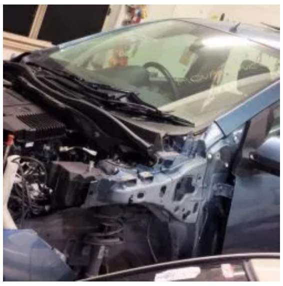
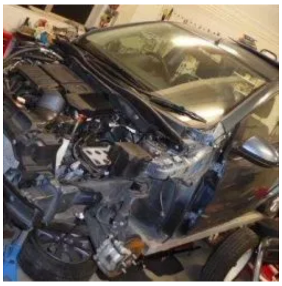
Learn how easy pranging a car is, so on the roads you will try really, really hard to not do it!!! And develop some useful skills to help you succeed...

VR Driver Simulation Prototype – An Introduction to “Moki”

In Aug 2016 a start was made to build a proof of concept prototype to find out once and for all if this concept was as doable as it seemed to be. The more that gets done the more certain success is looking. Kellie jokingly christened it “Moki” as it has somewhat assumed “the other woman” status, given the time spent in the workshop on it! Turns out this cutsie name is now a generic NZ Maori term for raft but originally meaning a large raft built from disparate materials in preparation for more difficult voyages to unknown / far-off places. How apt! By mid Feb 2017 the main construction phase was done and the detailed system work could commence in earnest.

Main Construction Phase

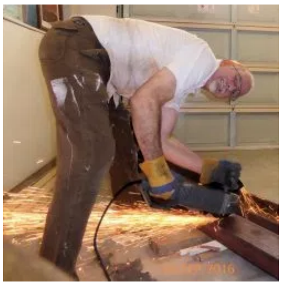


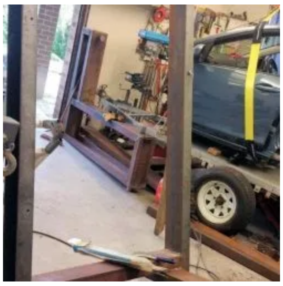













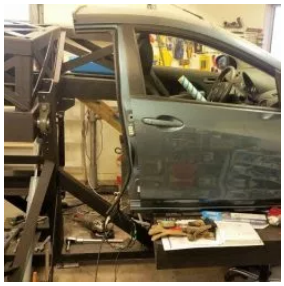




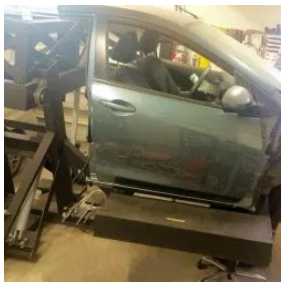
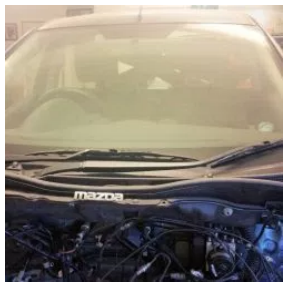


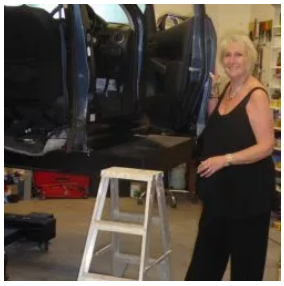


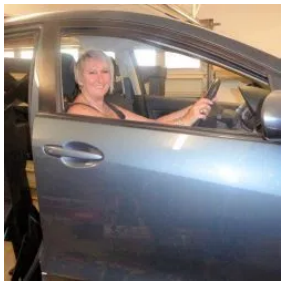




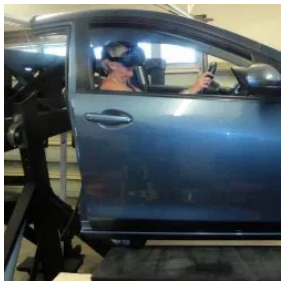


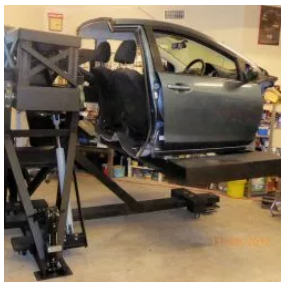




Before
(no driver)






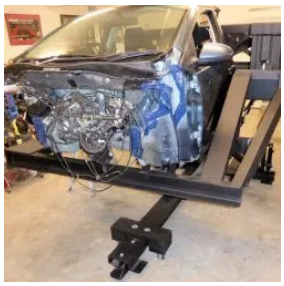













Hydraulic System Components



VR Driver Training Simulator System

Learn how easy pranging a car is, so on the roads you will try really, really hard to not do it!!! And develop some useful skills to help you succeed...

External Reference Material

There is a lot of very interesting and relevant reference info in the public domain. Some of note, in no particular order, are as follows (click link to display in new tab or right click and "save as" to download):

AAMI – top 5 car accident types infographic – there you have it, one simple but pretty telling definition of the nature of the problem – human beings can be so fickle and careless. Because they haven't found out the hard way how much getting this stuff right matters...

NSW Road Toll Daily – 2017-02-16 Spelling out the grisly details of people who did find out the hard way, but didn't live to do anything about it! For the most current data of this and other relevant info, see here.

Human Interface Technology Lab – Motion Sickness this is a simple explanation and the **same** text was seen on the website in 2005; this tidier copy from 2015. Goodness knows what happened to the grant as there is no sign of follow up work. They seem to be on the right path but, since it is a millennium era article, they were missing the technology to allow them to prove it.

Motor Magazine May2014 – Teaching Drivers The Skills They Need A cynical but commonplace and somewhat valid view that spells out what are seen as the systemic failures of driver training.

Recognising the true potential of technology to change behaviour a good reference doc when it comes to auditing lesson plans for effectiveness.

Global status report on road safety 2015 a pretty sobering definition of the scale of the problem.

World Health Organisation Road Toll Strategy-Launch shows the good will and intent to try and find real ways to tackle the road toll problem on a global front.

WHO_Global Plan for the Decade of Action for Road Safety 2011-2020 building on the goodwill and intent at a global level, this details how implementation is intended to work.

IAM-Young drivers full report this is very helpful detailed data that will inform the development of lesson plans.

Identifying programs to reduce road trauma to ACT motorcyclists despite the apparently narrow title much of the content is directly translatable to human behaviour and has some useful focussing info around that.

Dr Chris Chambers, School of Psychology, Cardiff University bound to be good value having a chat to this gentleman and his team.

HandsFree Phone Safety surprise surprise, hands free makes no discernible improvement and needs to go! However I personally make choices about when and how I use the ph and I tell the person I am talking to if they are losing my attention. I do it, but can it be trained as a conscious choice by others to use the thing in a responsible way? It is a pretty important topic that deserves lots of attention.

Aggressive driving – an observational study of driver, vehicle, and situational variables its a problem.

Psychology – The Dunning-Kruger effect in action a bubble we will well and truly burst for our fellow humans!

The Fundamental Attribution Error – Slow Drivers are All Idiots Probably one of the biggest tasks here is to tackle this FAE stuff head on.

Fundamental attribution error – Wikipedia, the free encyclopedia Herein lies one of those core human truths that need to be clearly seen for what it is and used to help get the required outcomes, rather than a wall to be pushed over.

Crazy Canadian Law to Make Picking Your Nose While Driving Illegal maybe you agree with the content, maybe you don't – but the core thing going on here is driver's are choosing to distract themselves – they need to see that as a big deal and act accordingly – we are going to help them do so!

failures of visual attention The Rich Drive Differently, a Study Suggests – NYTimes yep, will will even take on snobby rich kids – may even have a few bmw writeoffs mounted to get them to feel comfortable before they have their various epiphanies!

Paying Attention a good reference doc when it comes to formulating lesson plans.

Provoked driver aggression and status – a field study more definition of problem behaviours.

Road rage – a domain for psychological intervention_ could be a tough nut to crack, but people vulnerable to this sort of behaviour need to have "consequences" loom large when they contemplate such choices.

Police Journal 1997 Research into Causes and Manifestations of Aggression in Car Driving a useful area to follow up on.

Road rage some useful definitions and guidance for setting up lesson plans.

Driving speed changes and subjective estimates of time savings, accident risks and braking – Svenson – 2008 – Applied Cognitive Psychology – Wiley Online

Library how relevant is this conventional thinking approach? It needs to be properly assessed.

Illusion of control another good reference doc when it comes to formulating lesson plans.

Sensation seeking and risky driving_ a review and synthesis of the literature pretty sure those lesson plans are going to tackle this one head on!

Risky and aggressive driving in young adults – Personality matters pretty sure those lesson plans are going to tackle this one head on too!

Traffic psychology another good reference doc when it comes to formulating lesson plans.

Bad Driving – What Are We Thinking – Science; theguardian a layman's explanation of what we need to tackle when it comes to formulating lesson plans.

Road Survival Guide – Fighter Pilot Perspective pretty good blend of a layman's explanation of what we need to tackle and a lot of useful technical commentary when it comes to formulating lesson plans.

Cycle Torque Nov 2010 & Jan 2011 Extracts some really hard hitting reality observations on the road toll by a few ex-policemen. Ultimately is a cautionary tale about how hard it may be getting bureaucracy to move to a training regime such as is proposed here. However optimism reigns supreme, as nothing like this has ever been done before!

Older Drivers In Driving Simulator – Matt Romoser Presentation very valid and interesting observations; will be a useful guide formulating lesson plans / assessment techniques for this demographic.

Simulator Sickness Effects Of Field Of View Vision an ~2000 article doing the research and confirming modern VR headsets will be fine from a field of view perspective.

Simulator Sickness Doctorate Paper 2002 a great reference paper for this topic.

Simulator Sickness 2001 solid research to prove there is a problem with simulator sickness, but hindsight says the tests themselves were providing the wrong vestibular cues, so hardly surprising the problem was proven!

Simulator Sickness IEA 2000 more great research to define the simulator sickness problem, but again the tests themselves were inadvertently set up to create a sickness response – they just wouldn't have known it at the time!

Simulation Sickness and VR – 1996 here is the really nitty gritty explanation of what is going on to induce a sickness effect. Whilst this paper says the true cause/s can't be properly identified, it then goes on to spell out all the key factors in a way that sadly far too many following researchers seem to have simply ignored.

ProView Headset 1998 Pricing & Specs wow, $40k for an AR headset (called ST for See Through back then)

Aug 96 Real Time Graphics Newsletter Check out all the groovy headsets on page 9!

VR Driver Training Simulator System

Learn how easy pranging a car is, so on the roads you will try really, really hard to not do it!!! And develop some useful skills to help you succeed...

History

As told by the inventor, Vince Sunter – so it's the detailed version!

1995: Surprisingly, it was not some horrific event in my life that was behind this idea. Rather, in 1995 I was travelling as a passenger through the small inland town of Rutherford with a colleague who was driving a Toyota 4WD Landcruiser. On a straight dual lane section with unbroken concrete median strip we were in the left lane. A car displaying red P plates, with two young men in, it came out of a side street and turned left (only choice), directly in front of us.

Our vehicle lurched uncomfortably across the right lane and came to rest on the median strip, nothing hit and no damage. And no apparent recognition from the young men of their close call as they just proceeded off down the road, not anything particularly notable, not in a hurry or whatever. The driver had simply not looked before pulling out in front of 2t of Toyota's finest, complete with shiny bull-bar, bearing down on them. I got to wondering,

if the situation was reversed, what needed to happen for that young driver to become the person that had just avoided a probable fatality.

I made most of my stupid driving mistakes in my late teens, including one where I had managed to make a totally bonafide mistake all of my own doing when I looked, but didn't see, and pulled out straight into the path of a passing car. None of the 6 people in my vehicle were hurt, nor the two in the other vehicle, but it was one heck of a bang and made a big mess, totally my fault. I have also had a couple of other unhappy hits getting caught up in other people's mistakes, maybe with a bit of contributory negligence, but haven't had a car accident since I turned 20 – in fact I have saved a few since then! I do well remember I used to drive to NSW Uni (Randwick) from the Blue Mtns (Faulconbridge) during the week as a 17 yo and I thought I would "never" get used to driving in city traffic as it was so hard and draining to pay such close attention to everything going on. This was before any accidents.

I reflected on the above and concluded the answer was to put people in simulated no-win situations and that would shock them into learning something the easy way. My own lads were late teens themselves at this stage so of course it is something you contemplate, but at least I was in their lives and could give them the wisdom of the mistakes I made. And the choice of making the same ones or a brand new set! Fortunately they chose new ones, and all smaller by comparison, so a good outcome. Not to say I haven't made mistakes since as I sure have. Rather I am very quick to see them for what they are and am very tolerant of mistakes in others when they occur. If there was no hit we're all good – everybody learnt something; adding any kind of righteous indignation / aggro only devalues the lessons taken away. I don't care how much it was their fault and (blah blah), I could have seen it sooner / not put myself where "stupid" was a serious probability of rearing its head, or being surprised when it does…

I have been involved with several traumatic situations over the years where I had been a first responder, purely by luck of circumstances. People I thought I had saved later died in hospital. Others did OK, but I don't really remember them as it is "job done!". I got thinking about the road toll and initially started this simulator idea from the perspective that "One's too many". I later realised that is in the realm of "magical thinking", although there are a bunch of

bureaucrats that are saying zero is achievable but I don't see that happening with anything like our current systems of personal transport. I prefer to deal with realities and understand the complex underlying human capacity to err, or not, and try to influence the factors that can change the outcomes in a credible, material way. Plus it is a fact that humans will do risky things, eg in anger. So if I can get them angry / annoyed in a simulation event, then present them with a situation needing a cool head to sort and they stuff it, maybe they will make better choices when they realise they are angry in future. Same deal for young men and testosterone effects – set 'em up for a fail. Don't get me started on the choices young women make... etc. It all comes down to the lesson plans, which is a sizable body of work to do.

1996: I looked at simulator designs of the day and thought they were all too complex and expensive, plus the body of knowledge around how humans related to simulators said there was a lot of guesswork going on and nobody really had a good fix on what worked. There was definitely a lot of research happening and I corresponded with some top names in academia at the time. I realised what mostly was happening with simulators was you were taking a human and "doing stuff" to them, so it better be stuff that works from the human's perspective or forget it. Generally simulator design was around making better machines that humans ***could*** use, not better machines ***for*** humans to use. So I came up with the concept of geometrically fixing the centre of rotation of the "imaginary" forces – I just wasn't sure if that should be in the centre of the body mass to minimise "throwing" effects, or the head to minimise spacial disorientation effects; based on my reading at the time, I picked the body centre and have stuck to it. I also reasoned that direct whole of body forces (bumps / vibration) should be generated separately to be experienced directly in real time, as they would normally.

Back then, I saw the big challenge was going to be getting a video feed that worked; I thought doing the simulator well and economically was the easy bit! I had the intent to hire 3 – 5 video cameras and mount them on the roof of a car and drive around suburbia collecting 10's of km of video, which stitching software existed to make a large panorama of surround footage. Conceptually I would present a video to people and then zoom in or out to match acceleration and braking (to a point), and turning was simply panning the video (although they better go where the video goes or suddenly the world would run out!). But

I still didn't quite know how to tie it all together into lesson plans etc. I did however drive a few streets and stick precisely to the same position on the road and set ONE video camera at different orientations so I could make some trial stitched footage; that worked!

1998: When Windows 1998 came out and we had the latest DirectX, and now videos could be superimposed on other videos as moving sprites, I thought there was a pathway to kick down the main remaining technical hurdles to a real system. So now I could superimpose kids running out or a car backing out of a driveway in random locations, plus lots of other similar situations. And use the "competent driver core group" approach to set competency/ performance standards. Beauty, time to get serious! I researched VR head gear and, may be a surprise to modern headset owners, but there were lots of VR headsets around in the late 90's too!

I tried a couple of headsets and quickly found out I was a prime candidate for motion sickness myself. Most notably a FPS (first person shooter) called Doom which I felt sick for hours after a 10 min session, so I am a great guinea pig! Later research showed my issues were more about how the VR content was displayed, and a lot of easy to avoid mistakes were being made back then. Regardless, I resolved that the display mechanism itself wasn't that important, as long as sufficient immersion was there. Augmented reality glasses existed in the 90's and I thought they may have been a good all-round solution, as was surrounding the driver with vdu screens. There was the important matter of rear view mirrors to be dealt with, which was a bit unclear back then. But good miniature head mounted cameras and head tracking devices existed in the 90's, and that is how it was going to tie together.

Time to get some help I figured and spoke to many people – lots of interest but nothing of substance. On 24-06-98 I put a detailed proposal to the then RTA Driver Development Dept Mgr, Mr David Hill after very supportive and helpful statements from Mr Ron Chisholm, a Dept officer. This report was titled "Accident Rate Reduction Strategy via Development of Multiple Driver Training Simulator Capacity – Preliminary Feasibility Assessment" and was a concise 13 pages with a 2 page cover letter and about 100 pages of Appendices covering the various technical products and software contemplated at the time. My basic premise was that if you start drip feeding a project like this with a few $k pa it

is likely to reap serious dividends over a few years, and I provided detailed budget costing of how it was likely to play out.

In short, the RTA of the time wanted to buy mature technology and they saw an R&D style of approach as inappropriate use of public funding. For me, I took it that it was a tool and up to me to demonstrate it could be done. Given my financial situation at the time, not a chance! So I parked it. But it proved to be very useful having condensed all my thoughts at the time and, whilst things have changed a lot since then, I still rely on that document for guidance as it really was a well configured overall plan to full implementation! I figured solving the software aspects was something I could do cheaply over time and have another go at the project later. But that report detailed the exact approach I have ended up taking, with a couple of key technical changes. So far (as at Feb 2017) I am beating the budget for direct costs, but way over for hours taken! Which is a good thing actually as the prototype being built now is far more nuanced than the originally conceived device.

2005: By now I have done enough trialing with my treasured stitched footage to realise the whole video-stitching thing was going to be a flop; after a couple of useful gimmicky experiences, it simply wasn't going to be a pathway to get the behaviour changing results needed. Windows 2000 and ME releases hadn't been helpful but XP had potential, so I started looking again. By now I realised the only way this will work is to generate a mathematical world and have people maneuver around in that. I approached Sega to see if they were interested in doing something and surprisingly got a flat no.

There were several public domain virtual worlds "out there" by then and a thriving community interested in them. Quality was a bit marginal but maybe OK. Alternately I didn't think it would be too hard to sort something out with one of the major commercial players producing car racing games in urban environments who were releasing quality digital products that would have been suitable. So I gathered lots of articles and started to talk to people again; clearly there was a lot of interest in seeing this sort of thing happen. The NRMA of the day were very keen and helpful, despite that a few years earlier they had been split into separate groups (although 2016 enquiries found that spirit totally vanished). However I felt true support may be coming (it wasn't...!) and I set about doing detailed design.

I had taken every opportunity over the intervening years to get into any simulator I saw, either as amusement park rides or more technical ones, of which the Bosch ESP car control simulator at the 2005 Sydney Motor Show (see pics here and here) was a stand-out (finally – after waiting 8 hours for the thing to be fixed as it seemingly broke down on my arrival after I had just travelled to Sydney purely for the purpose of getting on it!). The Bosch simulator didn't move much but was very realistic. So I was pretty OK that simulators were going to be highly effective devices, but first I had to prove to myself that the whole thing was viable from first principles. So, out with the Subaru (WRX) in the back streets of Newcastle, on 16/10/05 per my notes, doing things like driving around a large vacant roundabout to establish what were reasonable maximum performance speeds, then parked in the middle and used a surveyors tape to get the radius etc. Same deal with stopping and acceleration distances – time and measure, repeat and check. With wry amusement, I now note I did this three days before I went to the Motor Show; guess I was already pretty convinced and the ESP demo was just the icing on the cake!

The calculated tilt angles needed to generate the required "imaginary" acceleration / cornering forces were very do-able. I set about figuring out exactly how this thing might be built and on 30/10/05 I had my first fully developed detailed 2D AutoCAD concept drawing. Whilst technically quite different to what I have built today, every element of today's prototype is in that earlier drawing, and also described in the 1998 report. So I was ready to take up one of the various half – promises I had been given to support the venture. But, short story, nothing happened!

2011 Sept: Because of my ongoing work in the motorcycling community, and specific participation in NSW Motorcycle Council, I got to spend some time with Mr Duncan McRae, a highly regarded RTA officer. I put to Duncan my then consolidated thoughts on the whole topic to see what he thought might be the best pathway forward, and if it would be a worthwhile endeavour anyway. Whilst it is fair to say Duncan never did give me a direct opinion (that's a public servant for you!), the very useful thing that happened is I coalesced all my thoughts around the detailed implementation aspects, some of which I was not happy with so I started thinking about them some more.

Unfortunately I had some surprising and extremely disruptive personal life circumstances happening from 2010 which lasted until Dec 2012, so this whole topic got little attention. Plus it turned out the (unrelated) engineering project business I co-own was about to go through an industry wide drought of income, not broken in any consequential way until Dec 2015.

2014 Oct: Oculus released the Rift headset DK2 developer kit and I just had to have one, as this looked like the tech that was really going to solve the visual implementation issues. In mid Nov it arrived and was a pretty impressive piece of kit. So now I regarded that all the pieces for success were in place. Oh, except funds of course, but nothing I could do about that right then, although there was a plan brewing....

My business partner and I in Calsun Projects Pty Ltd had developed and patented a method to do a step change improvement in mining throughput / productivity while work was light. We expected that would eventually become a decent source of funds, which I was happy to sink whatever I made into the driver simulator project.

2016 July: Calsun's mining innovation has just had its first "proof-of-concept" install and things are going very well – the technology is performing better than expected. I am seeing a little cash and thinking if I don't give this driving simulator a red hot go now it will never happen, in which case my commitment to myself was to publish everything I know to the web and encourage others to take it on. So I started.

This time, instead of talking to many potentially interested parties, I decided I just needed to push through to build a prototype that worked well and then we had something real to focus on. I could do this thing. I had also realised a great big trap of this sort of endeavour was to take on partners that one is beholden to as you can be sure there will come a day when their need for shareholder returns exceeds society's capacity / desire to pay for the use of the thing and it is a struggle from there to get the societal outcomes sought. The Wiggles got this stuff right, and I will take a leaf from their copybook. I had looked closely at the budget and concluded $30 / session was going to be doable – I later revised this to $35 / session as I concluded two operators needed to be present at all times, and one can do oversight activities with the other doing classroom

prep presentations before the sim session and similar. But I don't want greedy corporate shareholders deciding they want 100% returns and doubling the price or anything like that. This needs to be a stable profitable business, but a gold mine it ain't – other than for the lives and injuries saved anyway! If there is an entertainment spinoff that charges a premium that would be fine, but I want the core purpose of driver training to be highly effective AND accessible, in all the meanings of the word!

I do realise that down the track having a "big" partner on board will be useful for all concerned, not so much a commercial partnership but more a win-win alliance. So I approach my old favourite NRMA. I was asking for a token contribution of a wreck, but what I really want is their ability to provide useful support when trying to get RMS / politicians to support implementation related activities, plus it will be a big deal for publicity for whomsoever does provide support of this kind as you couldn't buy the goodwill that will come from this venture being successful. However NRMA (IAG really) said a flat no, and I made absolutely sure that top mgt were the ones making the decision, so they have burnt this bridge, but avoided a $500 max donation I guess. Wow eh…

2016 Aug 10th: So I find out how auctions work, and Pickles has one coming up on 10th Aug so by 9am I am the proud owner of a mica blue Feb 2014 Mazda 2 DEII Hatchback write-off that had a serious rear-ender on July 5th. It was a country car owned by a young lady from Maitland area, kept very clean and recently serviced, until that fateful day – but no blood anywhere so I guess she was OK. Coincidentally I was booked into hospital for a colonoscopy later that day, due to arrive at 3:30pm.

It was unseasonably warm, but I could drink water 'til midday and the car was released at 11am so I stripped the sides off my 8'x5' trailer (a useful leftover from owner-building our house in 2008-09) and collected it. After some effort I got the thing secured in the garage where the motorcycle used to be and was ready to be taken to hospital where I arrived on time but quite dehydrated despite drinking 1.5 litres before midday. There were no adverse side-effects from being dehydrated, and the bonus was I was later told my Crohns of 12 years had gone into total remission as there was now no sign of it.

What happens after you put a thing like this in the shed is you start taking bits off it, the less there are the easier everything becomes. Getting down to just the cabin assembly brings the first big decision, and substantially changed technical direction. Everything to date I had done was about a driver seat only situation, with the passenger side removed as obviously that is where one of the pivot bearings needed to go. I would make it up in the virtual world, not quite sure how. But, now I am doing it, there comes this question:

Where to cut? Obviously you want to keep the console, so it is somewhere in the passenger side floor – I always intended to put a ply wall frame there and maybe paint the other half of the interior on it. But what happens to the windshield. And the stuff mounted on the firewall / in the cabin? OK there ARE answers to all this stuff, but what I MUST do is build something that is ultimately simple and repeatable, and all these answers add up to "special tasks".

So I change direction somewhat and decide it is the complete driver – passenger cabin module that needs to be supported. Which works much better for a variety of vehicle types and simplifies the bespoke part of a multi-berth simulator setup, etc, etc. But it will be MUCH BIGGER, will it work? Is it doable? Soon have the basics of a design that will support the whole cab, although am a bit concerned that what I design as "buildable by me" may not have enough twist resistance so deflection or "bounciness" may be an issue. I resolve to deal with this later and plough on regardless. Also check the dynamic loads to accelerate the various bits at the sort of speeds needed, and find they are all within the capabilities of reasonably practical hydraulic equipment.

2016 Sept 9th: The steel arrives and construction begins in earnest. The drawings are basically "thinking music" to guide how the geometry needs to work, but little mods were regularly being made to suit exactly how things are or the exact size steel I actually had / whatever. But come together it does as assumptions get validated and further engineering and other checks bring confirmations.

2016 Oct – Nov: Fabrication continues and lots of equipment being researched and purchased, be it a host of electrical control gear, a 3-axis datalogger, inclinometers, wheels for a skate system to move it all around, a 3 phase outlet

for the garage, and many intricate hydraulic components. And fabrication continues unabated, although in bursts as it is a little taxing on a late 50's model bod – hot weather / extended exertion / any excuse really will do to stop early / miss a day! Which was fine as planning is very important too, so the days ran together to keep a great rate of progress overall. Of course ANY work on this "pet project" takes a back seat to activities geared around bringing real work into the engineering business, or the performance of same, and that influenced progress too.

2016 Nov 21: Main fabrication "finished" and I concentrated on sorting out the hydraulic parts. Quite a task, but made much easier with the excellent help and support of CMA Electro Hydraulic Engineers who have kindly leant me two spare but very expensive servo controlled hydraulic valves. Also USG Hydraulics has been providing high quality equipment at even better pricing than their normally exceptional value products. See Supporters page for more detail.

During this time I had also purchased and received the Oculus Rift production headset and the HTC Vive headset, as well as built from the ground up a PC capable of running this high end VR gear to the max. I have purchased lots of appropriate software plus collected a lot of the demo stuff, and also purchased a high end driving game controller (more on that later). Can you believe I have been so busy with all the bits 'n pieces of this project I haven't even plugged it all together to make sure it works (it will!) or spent any time just fooling around with the extremely good VR experiences that are to be had. I look forward to the day I can take some time out and just have a proper play with all this stuff, and top up my earlier experiences with the DK2 to get calibrated to just how impressive this gear is now. Heck even the Samsung Gear (a lower quality smartphone version that may be considered for a full roll-out) remains unopened and in the meantime my Samsung ph has developed display issues so may not get to use this thing any time soon.

2016 Dec 28th: First time the cabin assembly was properly assembled to the main support arm to find out if we had a problem with twist and we sure did – about 100mm sag, maybe more, and I was concerned a permanent set may have been induced in the main arm longest channels. Maybe not a surprise, but I now had a serious job to do. And all the steel merchants were shut so it was off to Bunnings and using the more unwieldy building profiles, eg 100mm

lintels, for angles. This stiffening exercise was a big job, but the benefits gained were so worthwhile and will pay dividends in the quality of experience achieved. Plus it is another variable that has been totally removed from the equation when it comes to the serious testing and tuning stage.

2017 Jan 9th: Seven packs of electrodes later and the stiffening is fully welded in place and the crane & chain hoist removed. And we have ….. no detectable deflection! Wow. Later measured what influence adding a medium sized driver was and it didn't even make 3mm. Wow again! This is at the end of a cantilevered arm that is in effect ~5m long, shaped in a U configuration. So very happy with this win and painted it up to match in. Started on patent research and writing.

2017 Jan 19th: Took a break from patent writing to put in an interim submission to NSW Parliament Staysafe Committee Inquiry into Driver Education, Training and Road Safety. Mostly to let them know this was going to be a future option and likely to be something they would like to know about sooner than later. I have until 20th Feb to get a more complete submission in, which I will be doing.

2017 Feb 2nd: Provisional patent 2017900314 filed. It had been a big task to understand how to prepare the patent and put it together such that all potential future commercialisation opportunities for this invention are covered, and to maximise licensing opportunities or commercial ventures into related areas. The aim is to take this invention global so all bases have been covered. The formal full patent application will need to be lodged within 12 months which will cost approx $10k – $15k, and which wasn't going to come out of the base budget of "maybe $20k" I can stretch doing the prototype to before something else needs to happen. Despite that I am pretty confident in my patent work and it is very detailed, when you look at the subtlety of what has been invented here it is pretty big, so it is critical the trained eye of a seasoned patent lawyer be passed over it and the necessary mods made. Which I suspect is going to be via adding a heap more details to what I have already done, my work being mainly to properly identify and secure the key concepts. Plus, as I note in the application, I haven't finished inventing it yet, although I realise some of the yet-to-come stuff may get separately filed.

2017 Feb 11th: Website went "live" with Overview article "So, What's it All About..." written plus photos put up. Using the standard WordPress 2016 theme, but struggling to figure out how to make the website look as intended. Will work more on that now some basic info is "up", including this history. But need to concentrate on the next entry, so you won't see any more happen here until it happens:

2017 Feb 20th: Put in a formal submission to NSW Parliament Staysafe Committee Inquiry into Driver Education, Training and Road Safety. Currently a prediction, better come true!!!

VR Driver Training Simulator System

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Our Fabulous Supporters

People who have gone beyond normal commercial dealings and provided tangible support to help make this project happen / all the better for their altruistic helpful assistance:

CMA Electro Hydraulic Engineers who have kindly leant two "spare" but very expensive servo controlled hydraulic valves for as long as it takes. This was a really seriously appreciated gesture by principals Clayton McLellan and Ian Duncan. The provided equipment will be a principle reason the prototype is able to fully test the sensitivities and nuances of control, and fine tune exactly what the critical parameters are to set up for a production process. Clayton McLellan of CMA says *"When Vince asked me about how to deal with some technical hydraulic control issues I knew we could do more than that, and was happy to help. I knew from our earlier shared steelworks experience that Vince absolutely was the one that could make an ambitious project like this happen, and it will only be a good thing when he does. I wish him every success."*

USG Hydraulics who have been providing excellent assistance with high quality equipment at even better pricing than their normally exceptional value

products, showing they are really serious about helping give this project every chance to be a success! Jim Harman of USG says *"What Vince is doing here is a really good thing, and I totally respect that he is doing it and how he is approaching the task. We are happy to do what we can to help make this prototype project a success. And of course we look forward to working closely with Vince as the project flourishes into lots of full installations!"*

VR Driver Training Simulator System

Learn how easy pranging a car is, so on the roads you will try really, really hard to not do it!!! And develop some useful skills to help you succeed...

Get Involved / Help Out

Assistance in two forms is always helpful. Money is the easiest thing to turn into other marvellous things, and is a bit scarce at the moment so always appreciated. The other is skills, which help will be needed with things like green-screening techniques as the nitty gritty of superimposing images is worked through, but this stuff can be dealt with via a forum that will get going in due course...

If you are keen to help, please do make a donation to:

SWIFT:	ASLLAU2C
Bank:	Newcastle Permanent Building Society
Account Name:	Advancing Projects Pty Ltd
BSB:	650000
Account No:	525589401

This is a special purpose account set up just for this venture, so 100% will go to the cause.

What Vince says *"While this MUST become a successful business in order to thrive and achieve the desired outcomes, it is primarily an altruistic contribution to society. It is being done on the simple logic that I have the skills and experience to make this happen, and therefore I should – as it won't happen otherwise! Happy to have other like-minded people involved, and funds are always useful when it comes down to getting results in a timely manner.*

Even if not successful, the prototype will be donated to a suitable university / safety facility for future research, so any contribution made will not be wasted. However, as at the time of going public (Feb 2017), the prospect of getting the expected outcomes for society look pretty rosy, so there will be people everywhere that are enjoying a decent life because this thing stopped them, or someone else, from wrecking it. Can you help? You know you want to! Thank you in advance..."