PASCHAL Mc GUIRE - Visual Designer

In my role as VP of Technical Design for RSM, I have been responsible for a significant number of tasks. Initially commissioned to make explainer videos of the RSM system, these were so well received by the infrastructure community, that I was asked to come on board to redesign their SIMON dashboard. After closer analysis of the system, I realised that a 2D style approach was inadequate to the task, given the level of detail required. I decided to re-design it from the lane level up, ensuring a map accuracy of up to 20cm (current GPS systems average 3m accuracy discrepancy) I then designed the system so that it could be scalable, so that all the intersections in a city could be seen in context.

Moving from computer games into transportation management, I have found that I can bring a wealth of tools to the design process that are not normally considered: from treating the road as a volume to be managed, to using 3D tools across the design process to help engage the user and help solve more abstract concepts.

My particular strength is in communication. By designing UI in software accessible formats, I have helped engineers and managers understand a problem by creating a visual language that is easy to understand without lacking in detail. I am self-starting and prefer to work in as many disciplines as possible to find the common path that all parties can agree on. I also help management and other colleagues appreciate the requirements and workloads of other departments, leading to greater empathy and better scheduling of tasks. I am equally comfortable working with engineers, academics, designers and in taking on more client facing roles.

This has led me to also design reports that can be edited by a number of parties, (who may have little software training) and yet retain the same qualities as much higher end publishing solutions. The result of this process has made the final report a better expression of the inputs of all departments.

Current Work: I am a visual design consultant on a number of projects ranging from motion design work to UI design and AR implementation for bespoke presentations.



SOFTWARE KNOWLEDGE – and its application in my design process

- **3D Studio Max** Asset creation, 3D asset integration, exporting and output, motion design, prototyping
- Maya Visualisation, motion design, prototyping
- **Cinema 4D** Visualisation, motion design, prototyping
- **Unity** App development, visualisation, prototyping, AR development
- Vuforia- AR API
- **Civil 3D** TIN surfacing, exporting volumes to 3D Max
- AutoCAD Blueprint updating, Raster conversion
- Infraworks DEM surfaces, exporting into 3D Max
- After Effects Prototyping, visualisation, explainer videos, motion design
- Illustrator 2D concepts, infographics, asset creation, branding design
- **Photoshop** Prototyping, visualisation, asset creation
- InDesign Reporting documentation, interactive reports
- Office Suite Data evaluation, presentations, interactive reports, general documentation

SIMON DASHBOARD – FINAL PRODUCT

To see videos of the dashboard as well as an explainer of what SIMON does, please visit: <u>https://vimeo.com/293589297</u> or click below



THE CHALLENGE

The brief was to make a super accurate, touch screen friendly web interface that could also be scalable, depending on the hardware assets available at the junction.

The interface also needed to be accessible for engineering, maintenance and management purposes.

The dashboard needed to show lane level detail, traffic light information and have scope for other metrics in a touchscreen friendly HUD



The original FITS screen were based on standard engineering guidelines, but were nonintuitive and didn't accurately describe the granularity of the data.



The international benchmark for Traffic systems was SCATS, which hadn't been developed in over 15 years



SKETCHES & PROTOTYPING

Realising that a Vector design approach wouldn't be accurate enough, I adopted 3D as my go to solution. I then began sketching out and prototyping various interfaces.

Because no two team members were ever in the same room over the course of that year, I made videos of my designs. This gave the coders a complete overview of the design logic, palettes, transitions and what could be developed in isolation.





SKETCHES & PROTOTYPING









DEVELOPMENT PROCESS

A two-fold design process; technical and visual, developed over the subsequent months. I used the restrictions of the engineering and programming to help me frame the visual design goals.

Initially seen as a hurdle, these limitations ultimately helped us to progress to an end product that is now ready for the multiple challenges the traffic industry will face in the coming years.

The following pages contain some of the final views that will be incorporated into the fully featured SIMON viewer.







SELECTED SCREENS



Default SIMON viewer with 3D buildings and lane information displayed. Viewer is 3D based and can be rotated and zoomed.

SELECTED SCREENS



Reporting viewer- lane data can be downloaded for individual lanes or entire intersections.

SELECTED SCREENS



Radar viewer - a calibration tool to show how the SMART micro-junction radars are functioning.

DOCUMENTATION



Part of my role was to wireframe each part of the dashboard and illustrate how the coders needed to implement various widgets. The coders also needed to be able to adjust the wireframe remotely, so we ended up using PowerPoint as it's time functions could easily be understood by all. Although I am familiar with many wireframing tools, I have found that PowerPoint is the most adaptable, once the art assets are created. This is one of 20 such design documents.

DOCUMENTATION- REPORTS



I was responsible for designing the reports that were submitted to the City of San Jose, which could be viewed as interactive documents. Initially, these were created in Adobe InDesign, although I subsequently found that Office tools could deliver the same functionality whilst allowing for more collaborative editing. Samples available on request.

NEW CHALLENGES

The role of autonomous cars and infrastructure to vehicle (I2V/V2I) communications is becoming increasingly important, so I am now designing the next generation of UI required to address challenges that this will generate.

These screens are a part of my current research and show lane use dependent on vehicle destination/intention, traffic density and ideas for next generation sat nav interfaces.



L Standard 4. Emiling 2. Entering 5. Standard GP5 view As the user approaches the intersection the traffic signals are displayed above each relevant lane. The right turn is not shown in this case, however if there was a pedestrian crossing it would also have its own cycle. Once the driver passes the intersection, the traffic signal icons fade away. **3 RSM Solution** rsm

PASCHAL Mc GUIRE Visual Designer

07733 270027 paschalmcguire@gmail.com https://www.linkedin.com/in/paschal-mc-guire-3a15463

CV

VP of Technical Design, RSM. November 2014 - August 2018

- Developed and designed all dashboards, interfaces, client facing end for 'SIMON' proprietary dynamic traffic management software currently used in San Jose
- Responsible for visualization of cutting edge IOT software problems, from how the emerging IOT will talk to vehicles, to how to build virtual cities in steps, to how the final standalone software will operate.
- Responsible for drawing up design plans, wireframes and videos to communicate app interfaces to coders and remote teams.
- Responsible for designing and creating interactive reports containing video and controls to help navigate complex issues.
- Skills: Innovative and cutting-edge designer using creativity, technical skills and marketing knowledge to help design cutting edge transport and environmental solutions. lifelong designer, equally comfortable with a pencil as with multiple 2D and 3D digital tools. Specialist in finding design solutions to simplify complex data and charts. Proficient with numerous graphic design platforms, including 3D Max, Civil 3d, Infraworks, Maya, Unity, Adobe CS Suite, Office Suite and other visualization tools. Able to create entire pipelines of communication; from a brief to storyboard, wireframe, full video and finally to presentations of design solutions to clients. Developing designs that can function on multiple levels, often problem solving and prototyping new ways to communicate data that is new to an audience.

Lead 3D Artist/Animator, Stick Sports. January 2014 - October 2015

- Designed and implemented all 3D assets for Stick sports games.
- From initial concept drawings, I would model, texture, rig, animate and export all 3D assets from Maya into Unity.
- Designed documents for the implementation of design processes and procedures, for the creation of bespoke playing environments using in-house software.

Animator Artist, Multiple Games Studios. 1999 - 2011

- Headstrong studios, London: Rabbids Rumble
- Curve Studios, London: Explodemon, Buzz!: MasterQuiz, Buzz!: Brain Bender, Spongebob Squarepants: Underpants Slam- Xbox 360
- Ideaworks 3D, London: Dirge of Cerebus
- Perception Studios, Sydney: Stargate SG1
- Core Design, Derby: Tomb Raider- Angel of Darkness, Tomb Raider: The Curse of the Sword, Tomb Raider: The Nightmare Stone

Freelance Artist/ Designer, Multiple Clients. 1996 - 2018

From PowerPoint presentations, end of year interactive reports, whiteboard animations, classical animation, 3D explainer videos, business pitches to VR 3D photogrammetry, the list of skills and disciplines is constantly expanding to meet ever changing client needs.

Software Knowledge: 3D Max, Civil 3D, Maya, Unity, Vuforia, Zepyhr 3DF, Infraworks, ArcGis, Cinema 4D, After effects, Adobe XD, Illustrator, Photoshop, Indesign, Premiere, Encoder, Microsoft Office Suite, Keynote, Prezzi

References and bespoke demos of visualizations available on request.