



**“Like a city without
Google maps”.
Wayfinding as a service
helps deliver great
outcomes for the on
campus experience**

Jon Peacock
Director, Space Management

Jade Germantis
Program Director, Spatial Analytics

Robert Cox
General Manager Asia Pacific, Mazemap



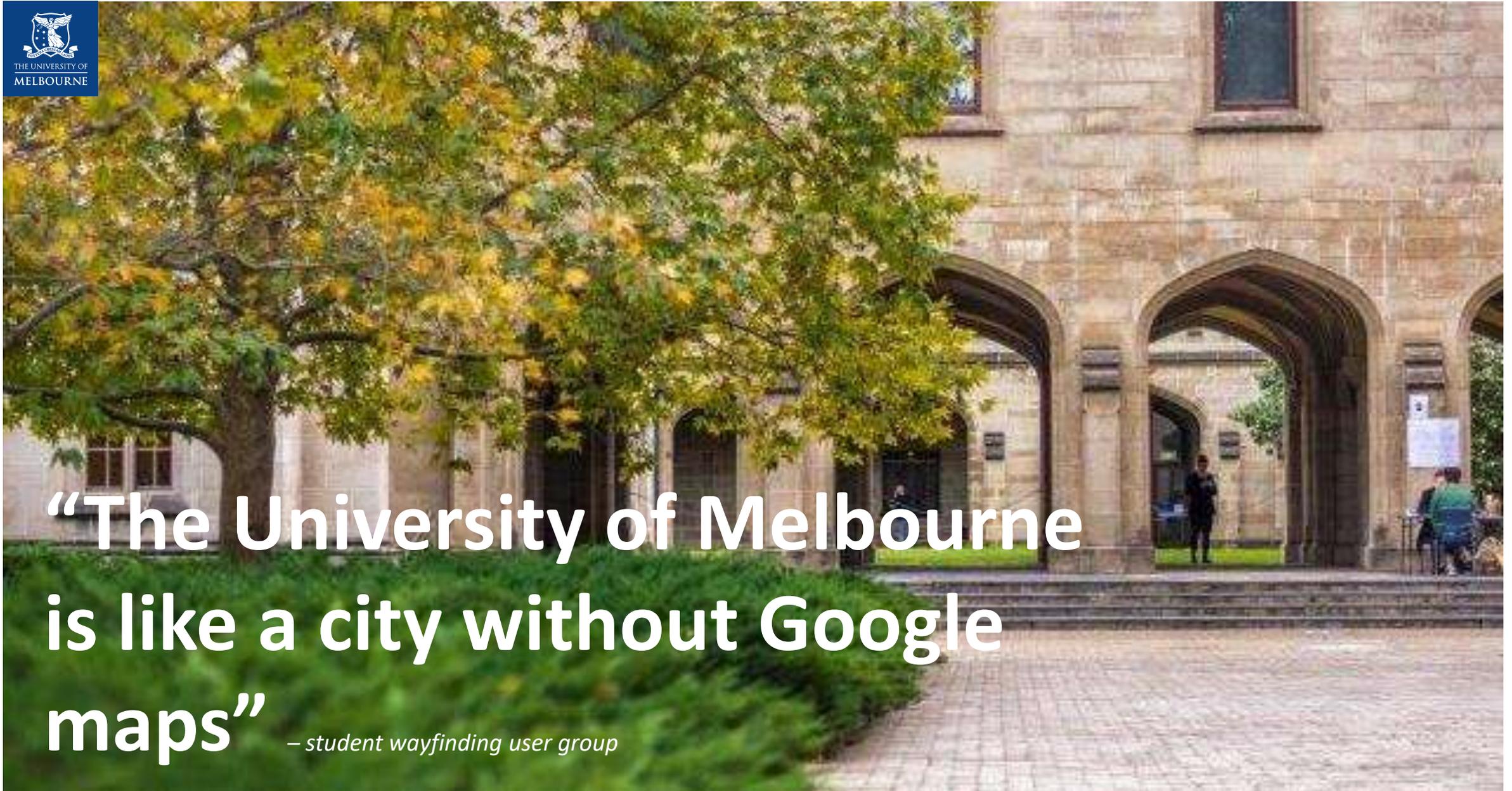


Agenda

- Project Introduction
- Physical wayfinding challenges
- What were the existing wayfinding offerings
- An ever developing campus and precincts
- Project discovery
- Impact of campus changes
- Project & product scope
- Project Promotional Video
- Technology challenges of digital wayfinding
- Integration, Data Quality & Curation
- Leveraging existing infrastructure
- Operational Administration & resourcing
- Future aspirations
- Questions and comments



**“The University of Melbourne
is like a city without Google
maps”**
– student wayfinding user group





Physical Wayfinding Challenges

With 2 campuses in the heart of the Melbourne CBD, major developments and infrastructure projects present challenges for foot traffic flow and overall student and staff experience.



Parkville & Domain Metro Tunnel Stations



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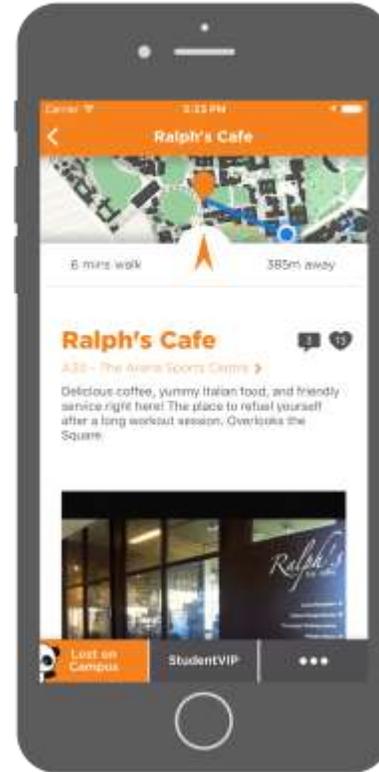
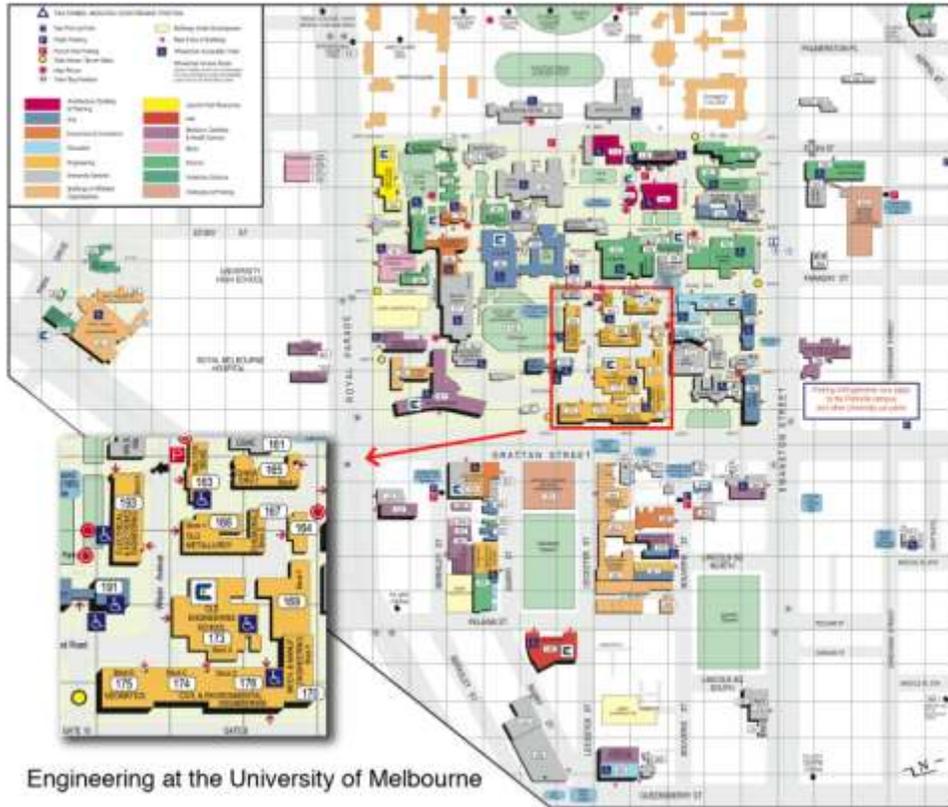
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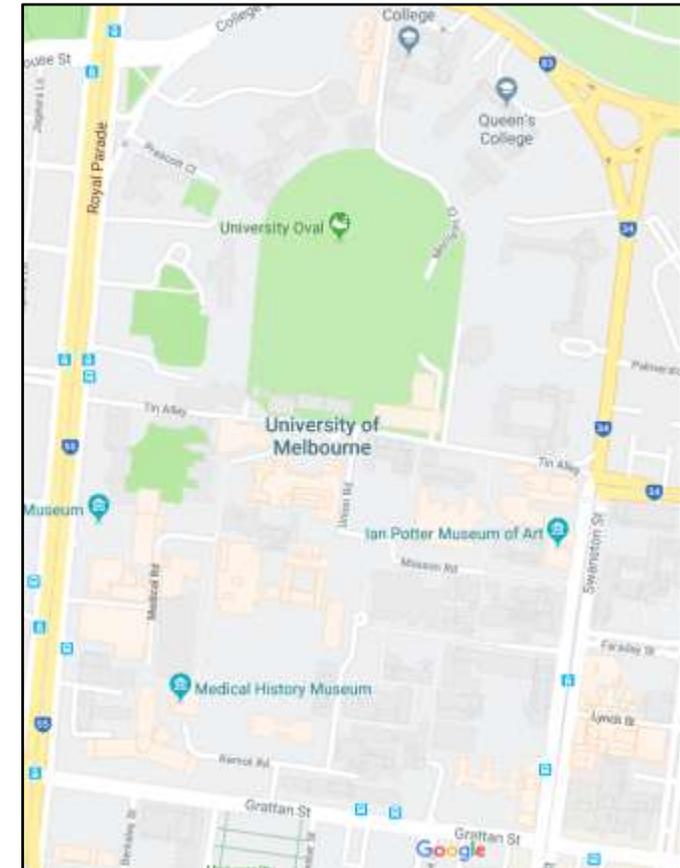
The image shows a video player interface. At the top center, a semi-transparent box contains the text "Press Esc to exit full screen". In the top right corner, there are three icons: a heart, a clock, and a share icon. The main video area shows a man with glasses and a blue blazer speaking. At the bottom, there is a video control bar with a play button, a progress bar showing "00:00", a signal strength indicator, a settings gear, a full-screen icon, and the "vimeo" logo.

What were the existing wayfinding offerings?

Static downloadable PDF maps



Lost on Campus app



Common mapping platforms



Ever Developing Campuses & Precincts

At any given point in time, UoM has a large number of refurbishment and new building projects along with Major campus precinct developments. How do we navigate our students and staff safely along while providing a seamless user experience?

Large numbers of students and staff have to be decanted to alternate locations, sometimes across campus and or across campuses. Large scale disruptive projects like these present an opportunity to leverage technology where physical wayfinding cannot keep up.



<https://vimeo.com/287382452>

Most ambitious capex spend commitment in the history of the university.



Project Discovery

The project paper was brainstormed with the overarching goal to be able to navigate students from point A to point B directly into the classroom/space.

- Project Initiated in October 2017
- During the discovery period the core project team volunteered at Stop1 during O-Week as “way-finders” to explore the issues and challenges faced by new and returning students.
- A staff and student user group was formed to gather the ideas and honest feedback on the current state of wayfinding.
- During this process it became clear the existing physical wayfinding signage proved to be inadequate.



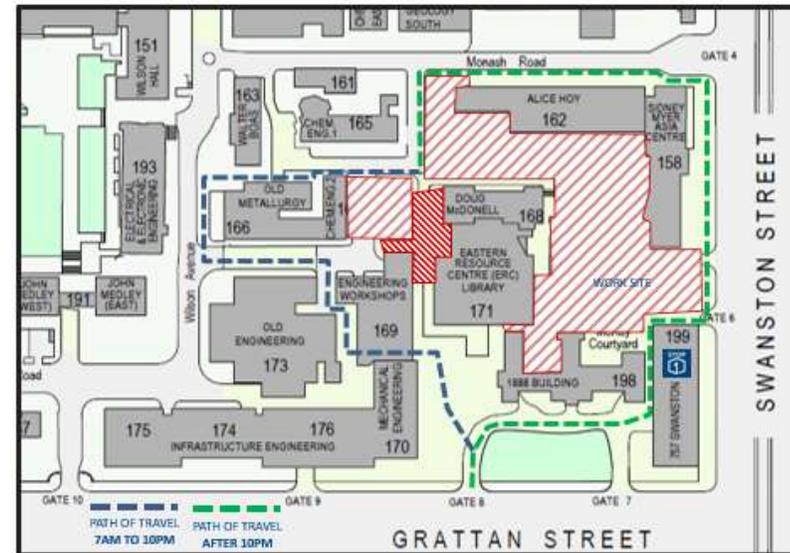
Stop1 Student Services (757 Swanston Street, Parkville)

Impacts of Campus Changes

The number one issue students presented to the project team during the discovery phase was trying to find where they needed to go IF their usual route was blocked.



Hoardings & temporary closures (Parkville)



Physical wayfinding printed out (Parkville)

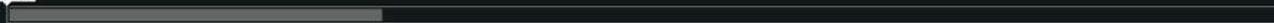
A consensus amongst the user groups were; while there is signage and temporary printed posters, **being presented with a blocked path and a detour is more frustrating** than presented with a different path before hitting the road block.



Press Esc to exit full screen



00:00



Project & Product Scope

From the discovery a clear project scope was defined.

- A digital mapping platform to be able to navigate users from point A to point B internally or externally on a map including DDA routes
- The ability to be able to update, open, close and create new pathways on a near real time basis.
- Make all common University of Melbourne amenities, class rooms, lecture & performing theatres, retail outlets, meeting rooms and exam venues searchable.
- Integrate platform with spatial data systems with the mapping platform for accurate room and building names.



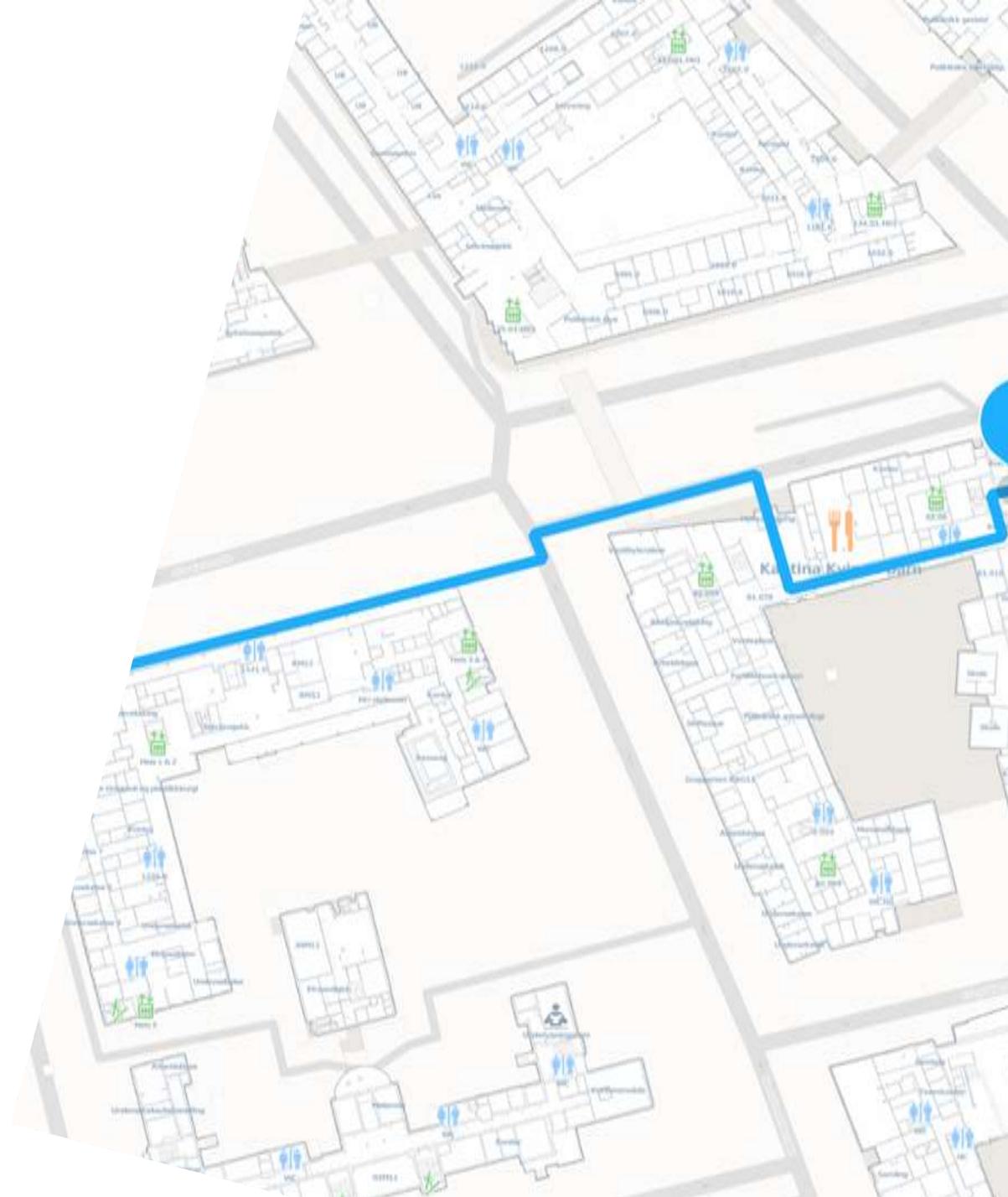
Digital Wayfinding Platform



Project Promotional Video

April 2018

Produced by the UoM Change & Communications Team



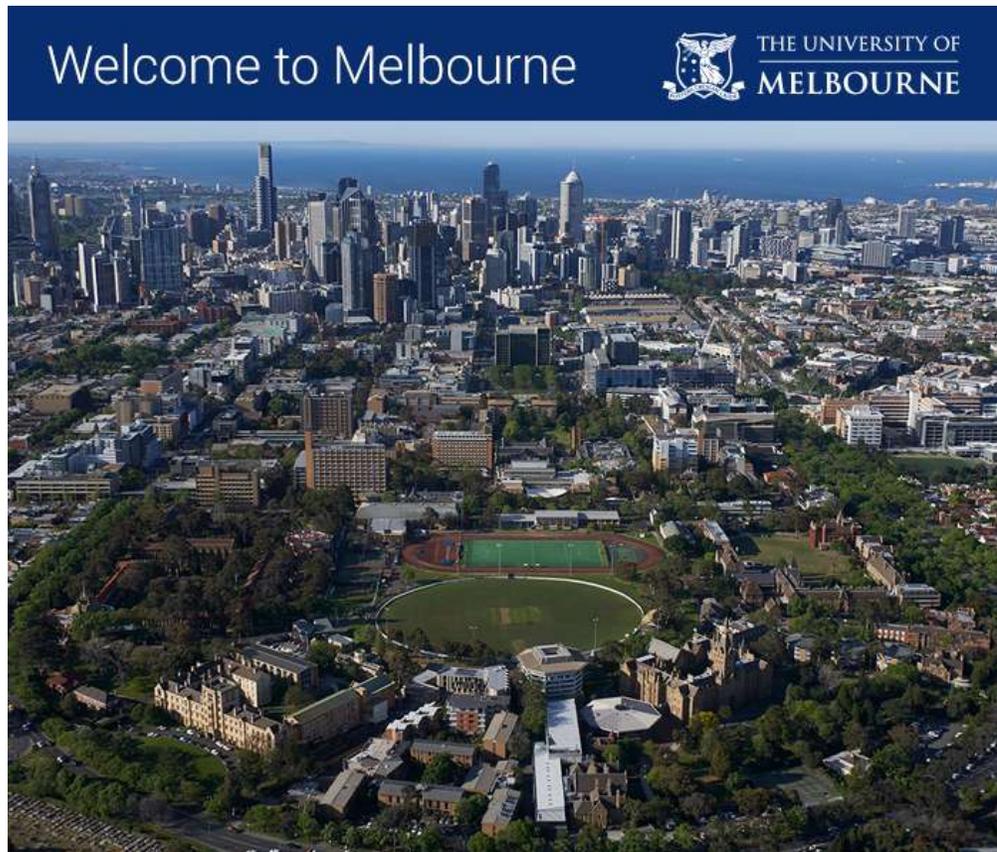


<https://vimeo.com/268328059>



Technology Challenges for Wayfinding

GPS and mapping technologies have come a long way over the last 20 years. However, in a city environment where GPS signal is inaccurate and indoor positioning is unreliable, this presented a number of challenges to the Project and Enterprise Architecture team when looking for a product.



Sky view (University of Melbourne, Parkville)

- Finding a solution that used both GPS positioning and WiFi or Bluetooth positioning.
- A platform that offers flexibility to update, add or delete:
 - Roads & Pathways
 - Buildings, floors, rooms
 - Points of Interest
- SDK's and developer API's that allows UoM to customise the look and feel of the solution.



Integration, Data Quality & Curation

The University uses a number of commonly used spatial management systems including, Archibus, SISfm and Meridian.

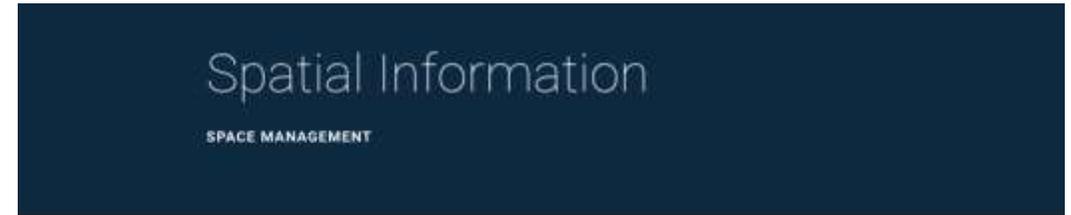


- Leveraging the University of Melbourne's Enterprise Integrations Services, data from these systems is sent to Mazemap on a daily basis for and delta changes made to source data.

- POI's for amenities close to campus are pulled from Open source street maps API's and integrated with UoM Wayfinding



- Temporal POI's such as pop up events, open day locations, market stalls, concerts, club and society sign ups have a UoM developed online portal to add or remove these POI's.



Search Rooms



Build Floor Plan



Download Data



Contribute/Consume As-built



Explore Landscape



Allocate Staff to Space



Download Campus Maps



Find A.V.



VIEW CURRENT AERIAL PHOTOGRAPHY

New users register here first

Application integration with API's & Java

It was important that the Mapping platform enabled developers to customise the look and feel of the platform, for UX and branding requirements.

FULL CODE EXAMPLE

```

<!DOCTYPE html>
<html>
<meta name="viewport" id="vg" content="initial-scale=1.0,user-scalable=no,maximum-scale=1,width=device-width"/>
<meta charset="utf-8" />

<link rel="stylesheet" href="https://api.mazemap.com/js/v2.0.11/mazemap.min.css">
<script type="text/javascript" src="https://api.mazemap.com/js/v2.0.11/mazemap.min.js"></script>

<style>
body {margin:0px; padding:0px; width:100%; height:100%; font-family: "Helvetica Neue",Helvetica,Arial,sans-serif; font-size: 14px; line-height: 1.2; border: 0; height: 1px; background-color: rgb(216, 216, 216); }
#map {width: 50%; height:100%;}
#posdata {border-left: 1px solid rgb(230, 230, 230); width: 50%; position: absolute; right: 0px; top: 0px; height: 100%; padding: 10px; box-sizing: border-box;}
</style>
</head>
<body>
<div id="map" class="mazemap"></div>
<div id="posdata"><div data-h2="4" /><div data-h3="4" /><div data-h4="4" /><div data-h5="4" /><div data-h6="4" /></div>
</script>

// Just the same way to initialize as always...
var myMap = new Mazemap.Map({
  container: 'map',
  campuses: 121,
  center: {lng: 15.278265316718465, lat: 52.5802217849585705},
  zoom: 18,
  zlevel: 3,
  scrollZoom: false,
  doubleClickZoom: false,
  touchZoomRotate: false
});

myMap.on('load', function(){
  // Initialize a Highlighter for POIs
  // Storing the object of the map just makes it easy to access for other things
  myMap.highlighter = new Mazemap.Highlighter( myMap, {
    showOutlines: true, // optional
    showFill: true, // optional
    outlineColor: Mazemap.Util.Colors.MazeColors.MazeBlue, // optional
  });
});
  
```

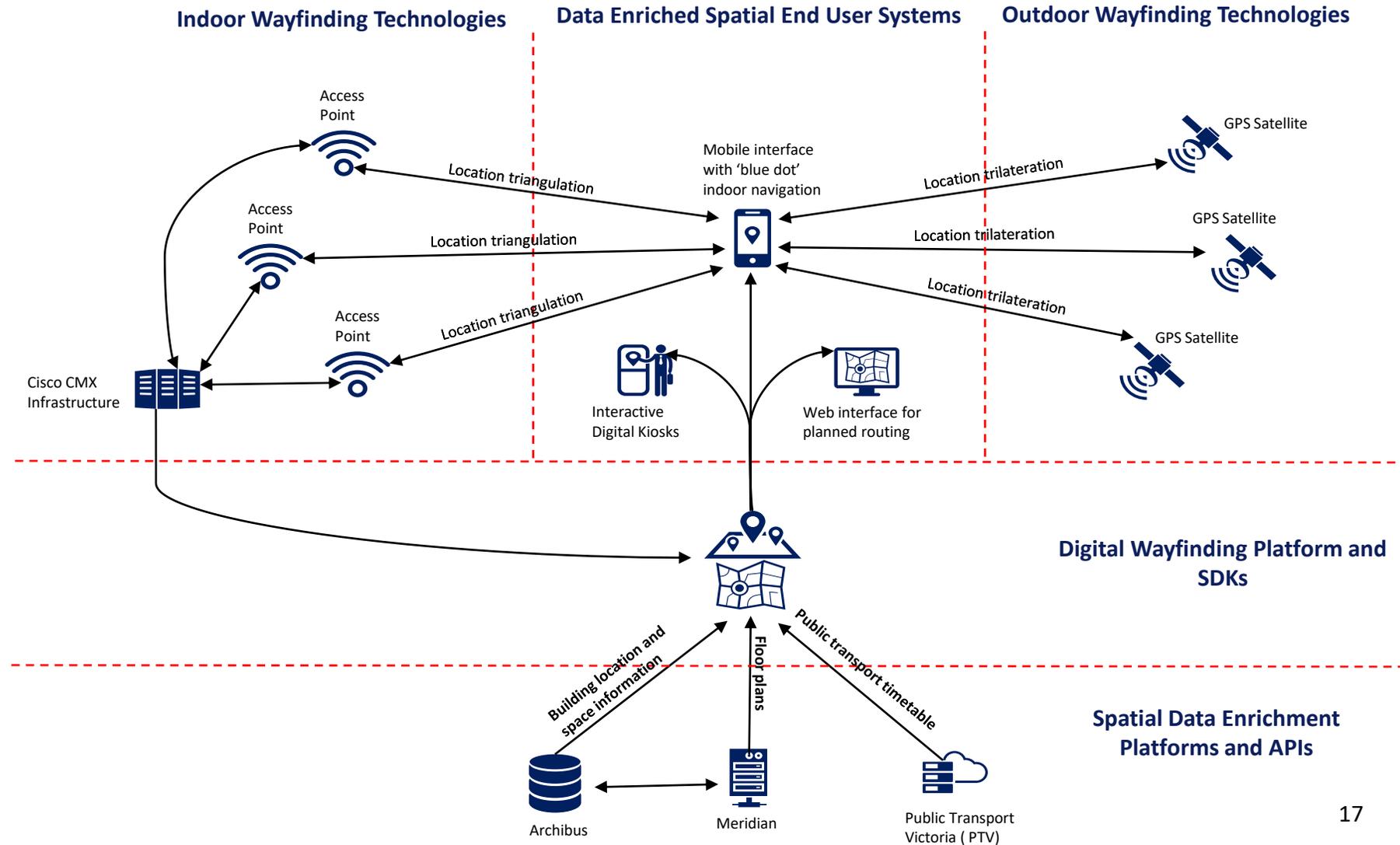
Mazemap API and Java code examples



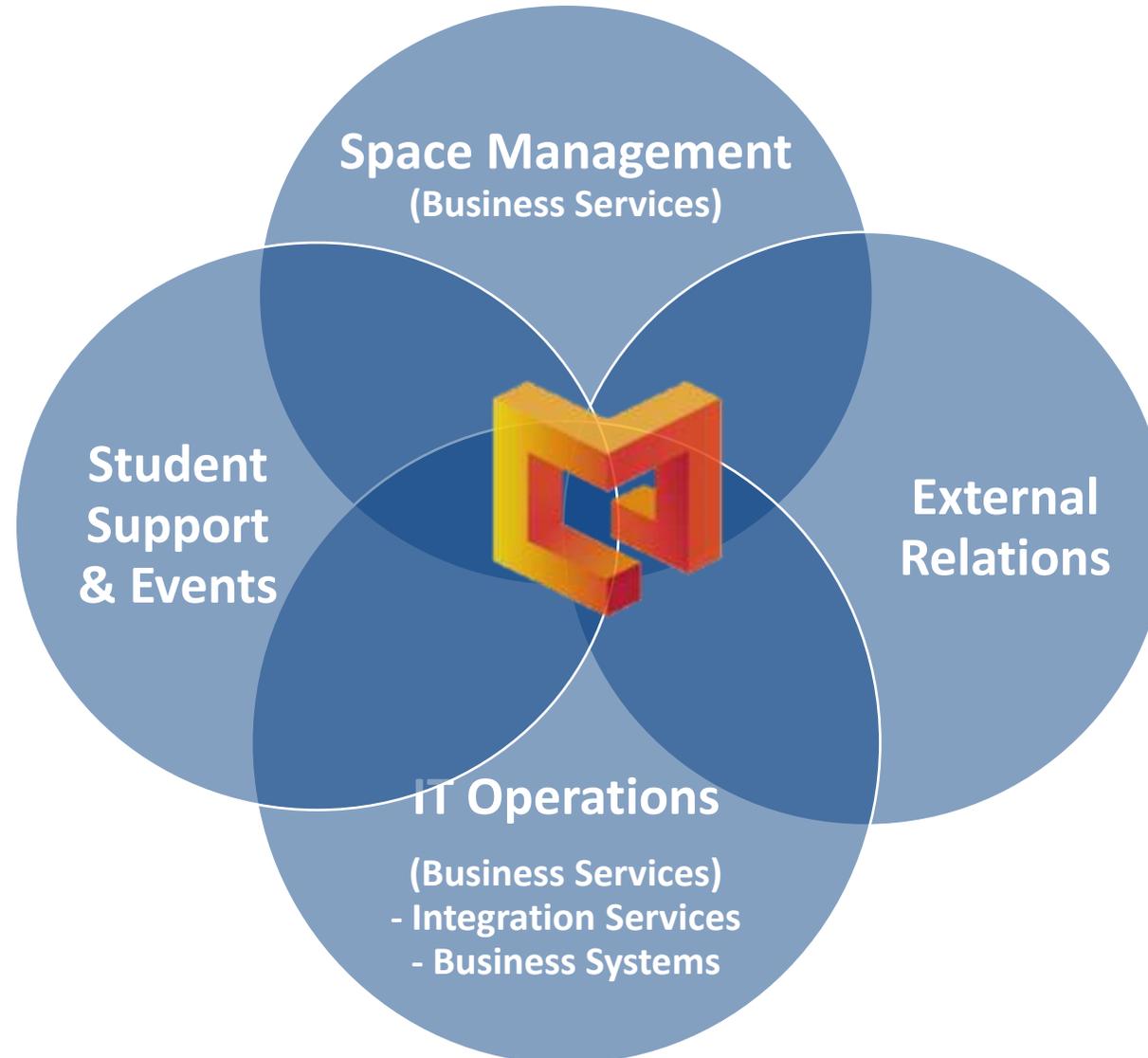
Maps.unimelb wayfinding site



Leveraging Existing Systems



Operational administration



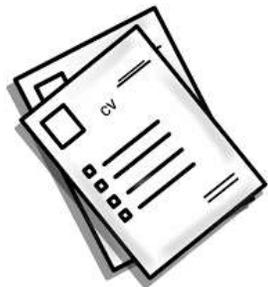


The Digital Wayfinding Internship Program

Ensuring the wayfinding and mapping capability operationally is in ongoing iteration and development, UoM space management team have partnered with the Master of Engineering & IT internships program.



- Master of Engineering, IT & Science students can enrol in the Digital Wayfinding Internship subject in partnership with the Engineering faculty for 25 coursework credits. 350 hours.
- Students integrated into the wider UoM Space Management team and are offered opportunities in Spatial Systems and wayfinding administration.



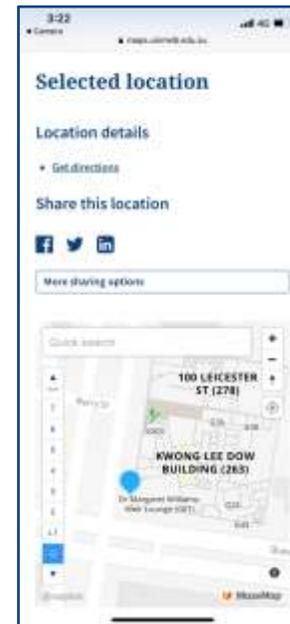
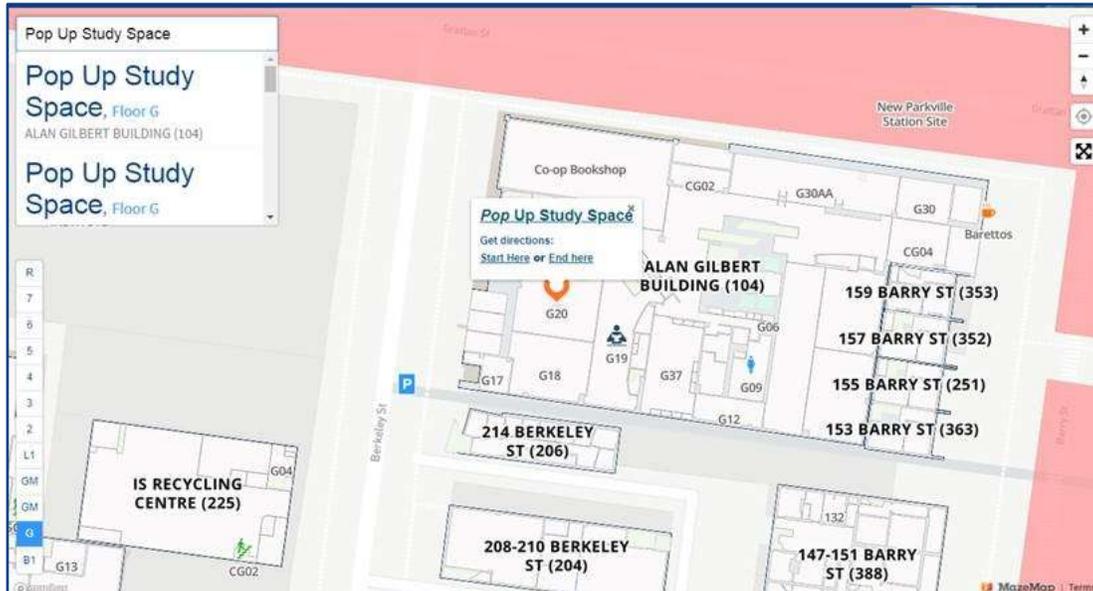
>40 Master of Engineering and Science student internships hosted since 2018: An injection of 14K hours of brilliance and energy into the program.



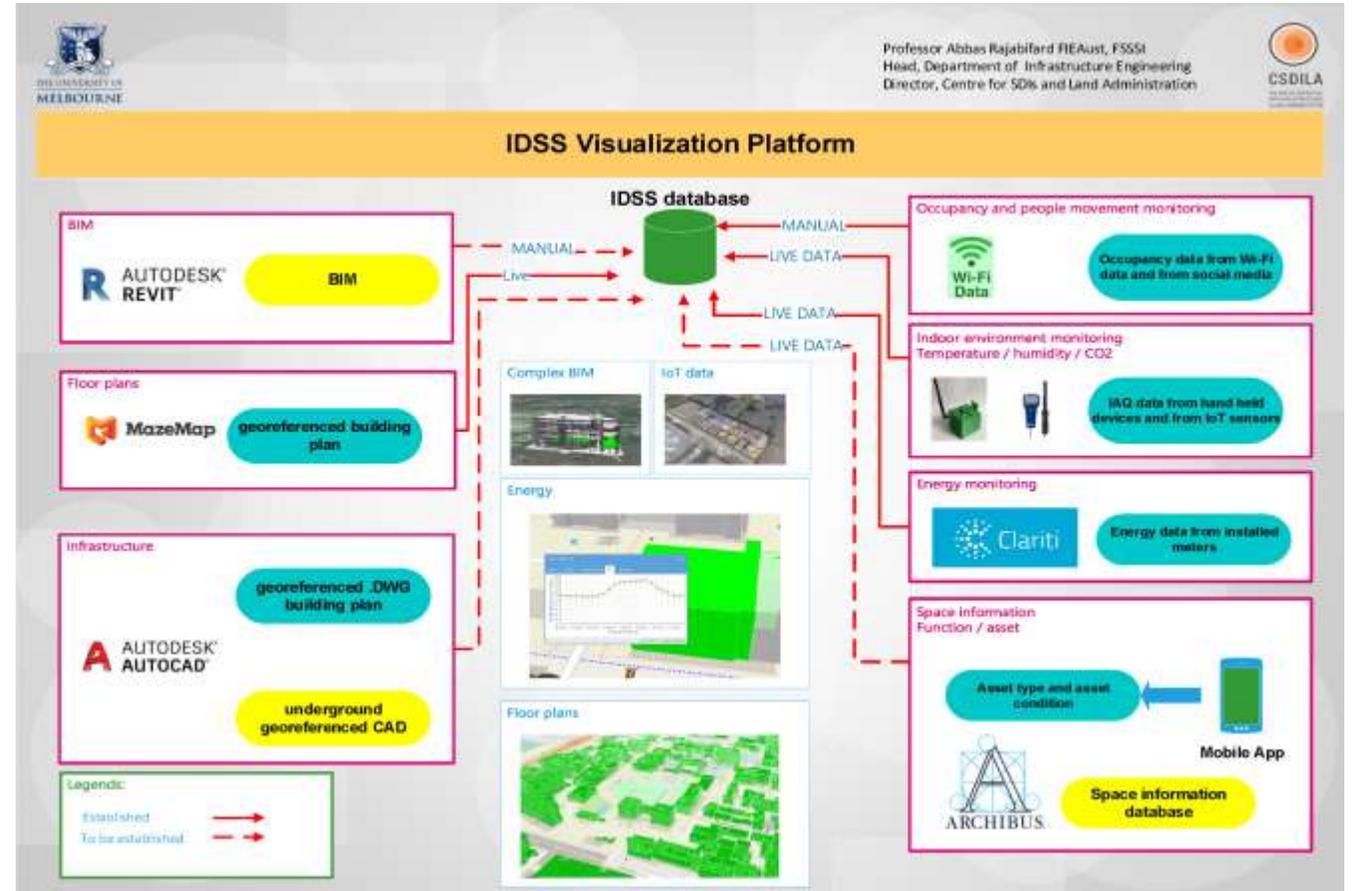
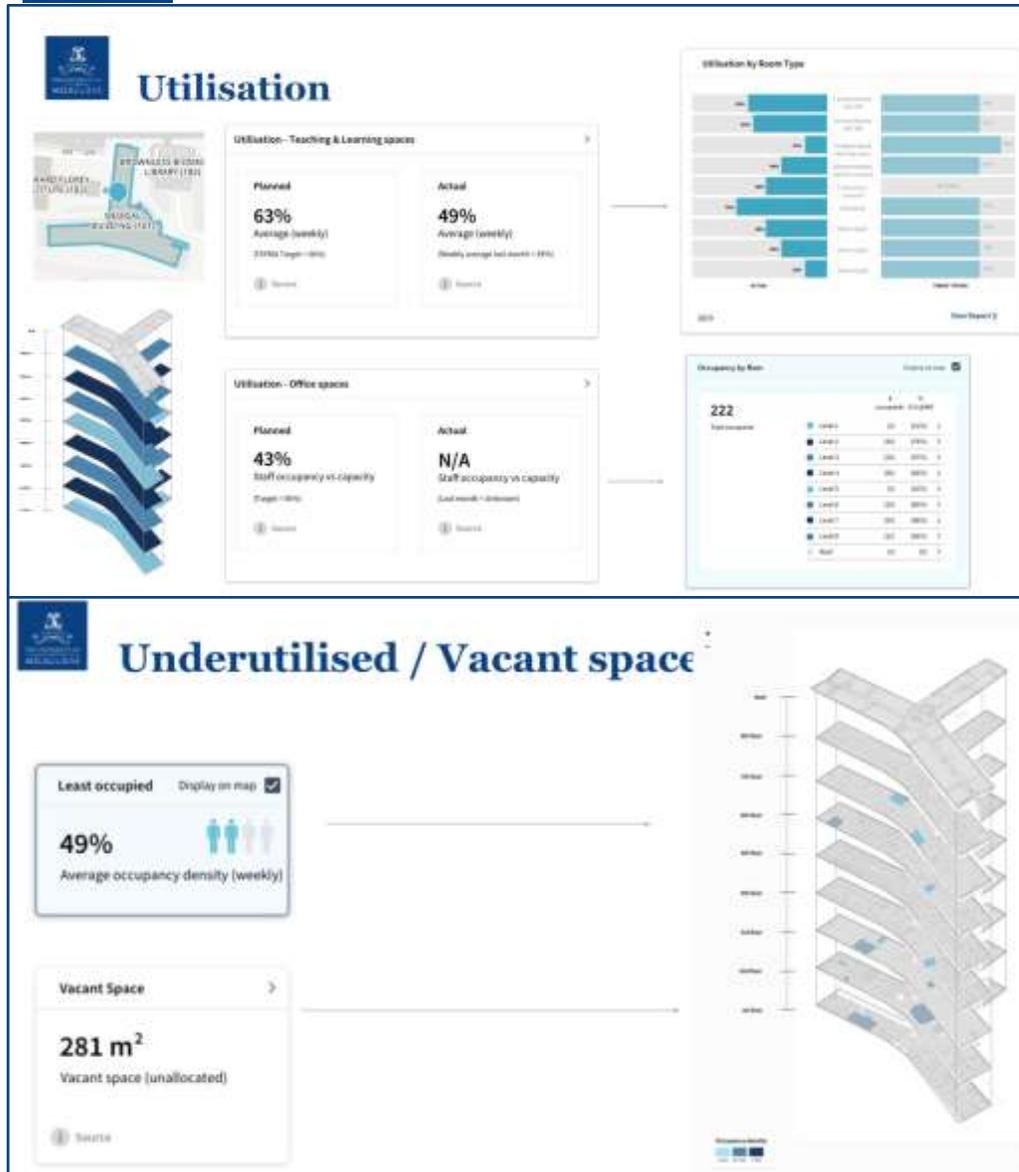
Pop up study spaces, 'Bouncing' from physical to digital via QR codes & Mapping assets/internal points of interest



Vending machines



Enabling the Smart Campus 'Digital Twin' journey





Future Aspirations for Wayfinding at UoM

Phase 1 of the digital wayfinding project was a complete ground up implementation of a digital mapping and wayfinding capability at the University of Melbourne. Future uses of the capabilities are being explored for future phases.



Smart Campus IoT integrations such “find a pc or free study space in the library etc” on the fly...



Digital Kiosks



Meeting room booking & visualisation

Syllabus + link embed into timetable system

Hardware Visual Management

Health and wellbeing, room/outdoor tags & other room assets/attribute keyword tags



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Thank you

