BIM View
Proactive Model Management

Holger de Groot
National Director of BIM

Mehdi Blanchard
Technology Innovation Specialist

AUTODESK. UNIVERSITY

About the Speaker

Holger de Groot

As National Director of BIM for the Australian region, my role is to supervise and guide Digital Practice Leaders at HDR. I am responsible for implementing and advising leadership on the corporate Digital Practice BIM Strategy, interacting with various disciplines and advising on BIM matters at all levels.

https://www.linkedin.com/in/holger-de-groot-11741336/

About the Co-Speaker

Mehdi Blanchard

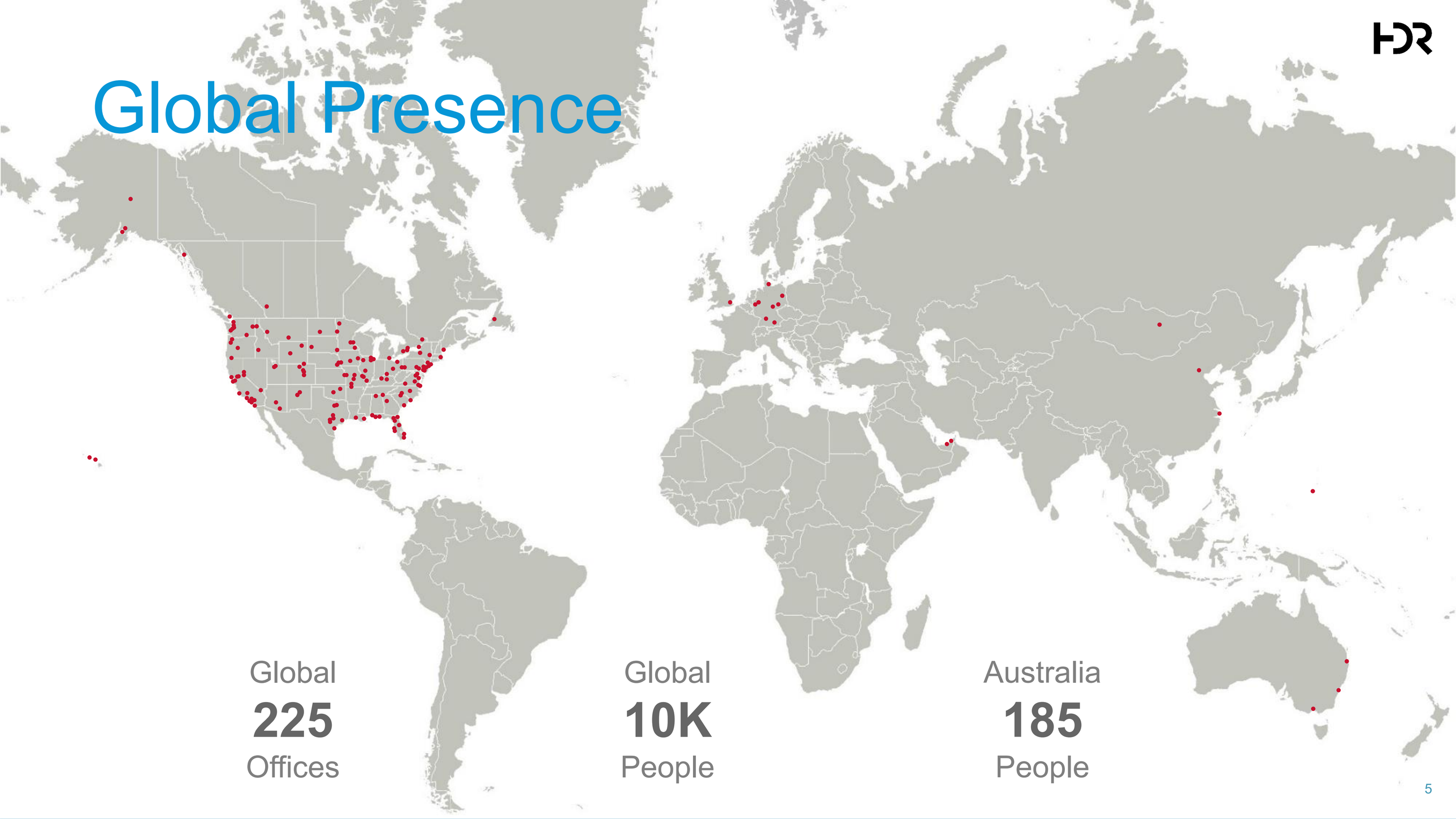
As a Technology Innovation Specialist, my role is to assess new technologies and find creative ways to implement them in our workflow. I also research, design and develop custom software solutions for HDR globally.

https://www.linkedin.com/in/mehdi-blanchard

Profile

HDR is a creative firm for architecture and engineering with experience spanning over 40 years in the Australian market. With more than 10,000 employees worldwide in more than 200 offices around the globe, we have access to highly informed best practice, innovative future-thinking and top talent from around the world, allowing us to contribute world-class intellect, expertise and specialist knowledge to our projects.

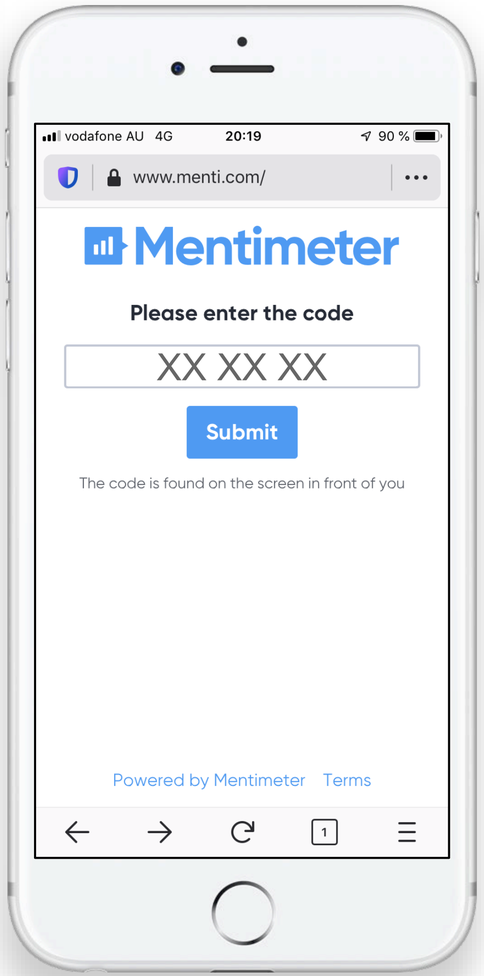
Global Presence



Global
225
Offices

Global
10K
People

Australia
185
People



Who Are You?

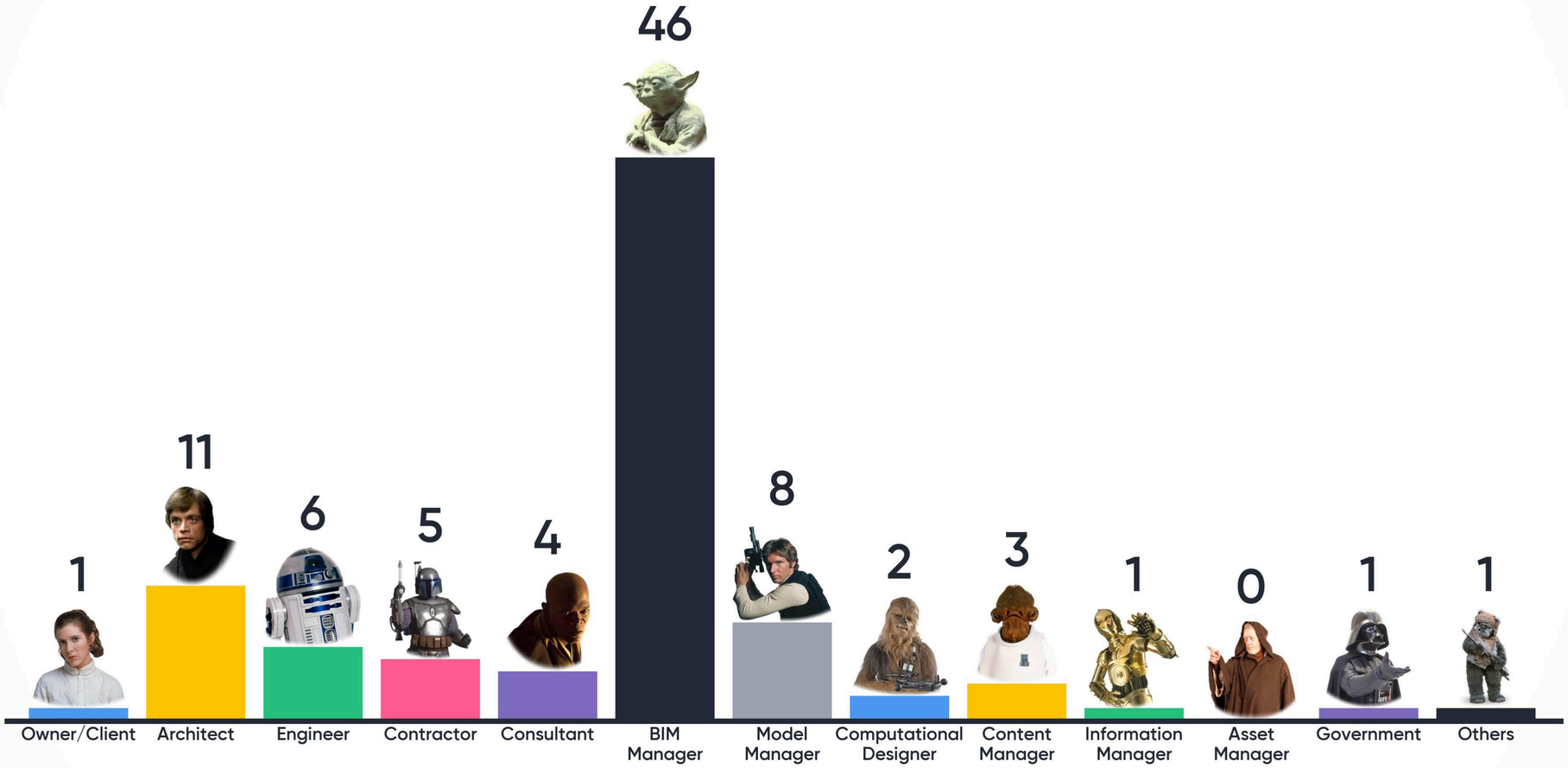
Grab your Phone

Go to www.menti.com

Enter the Code and Vote!

Who Are You?

Mentimeter



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In this Session

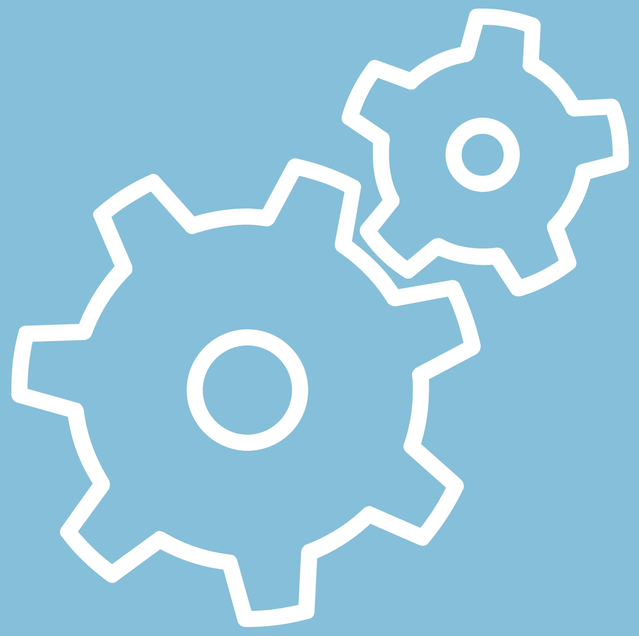
Key Performance Indicators

Infrastructure

Collecting Data

Visualising Data

Optimising



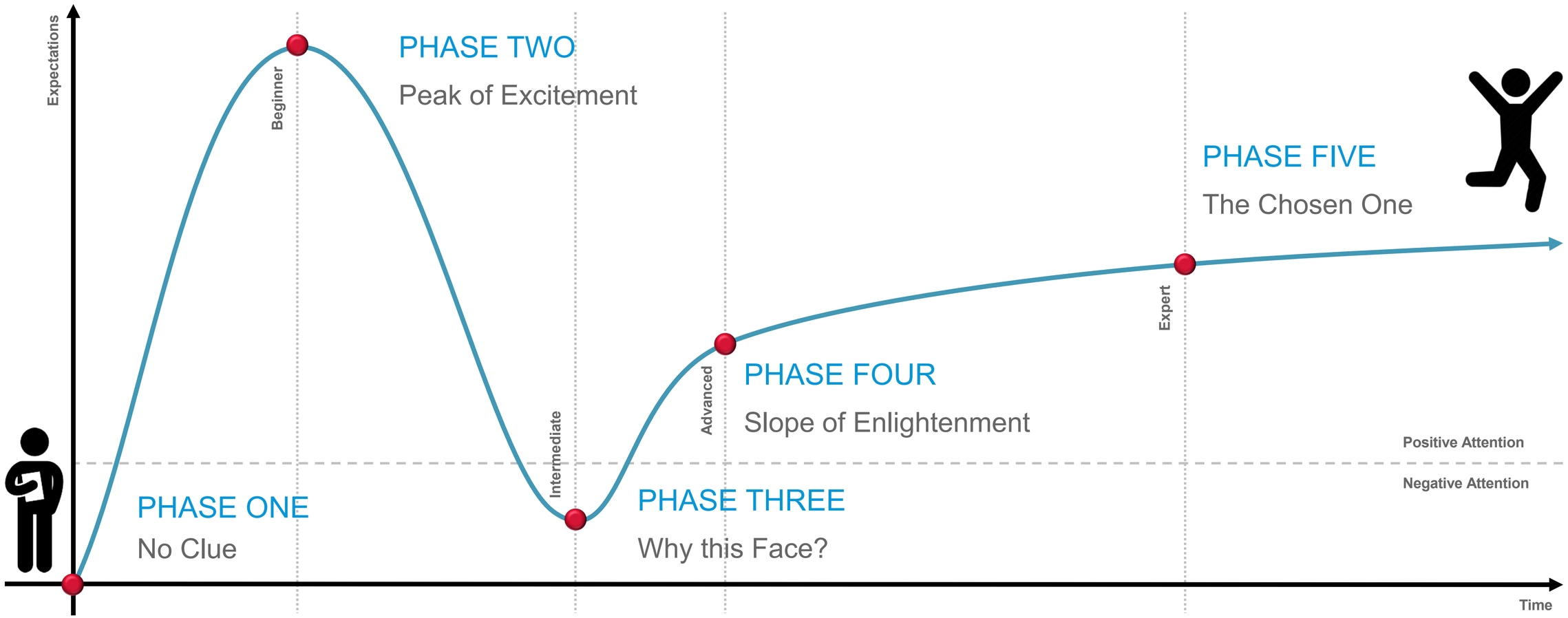
Lessons Learned

Stop Reacting - Start Responding

Five Phases of Revit

One of the things that occur in many offices is that, after training, everyone is expected to be an expert at using Revit. But it takes time for new Revit users to get comfortable with the program, the new workflows and to build up a high level of user knowledge.

Five Phases of Revit



Why doesn’t it work?

New Revit users are usually being asked to learn the software as they are working on a project. Even if they come prepared with basic training, they will quickly find that not everything is going to work like it did in their training sessions which can lead to frustration!

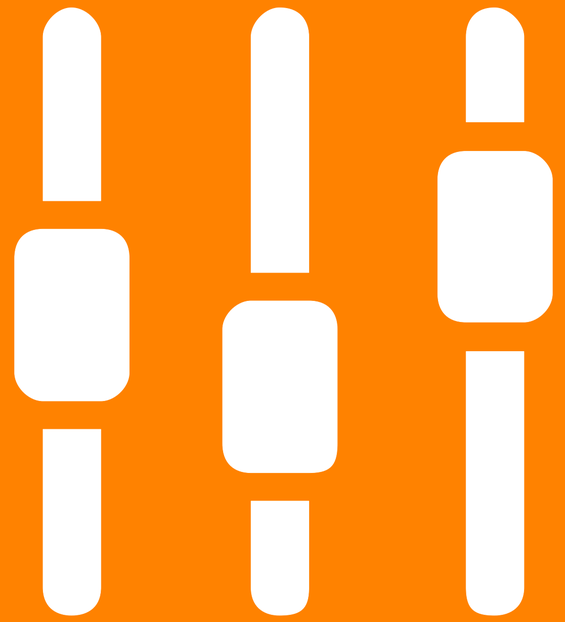
How do I fix this?

Quite often, new Revit users not only have to educate themselves online (webinars, eLearning, user forums, etc.) but also find themselves without the support they need to be able to review what they couldn't do and everything else that caused frustration. Revit's inability to provide user-friendly feedback isn't making it easier for them.

Start Responding!

We realized that it was time to develop a tool for our Project Leaders and BIM Managers that could not just be used to monitor the project status and ‘health’ of individual models, but would also allow them to identify critical areas before they turn into problems – a tool that would allow them to proactively manage a project.

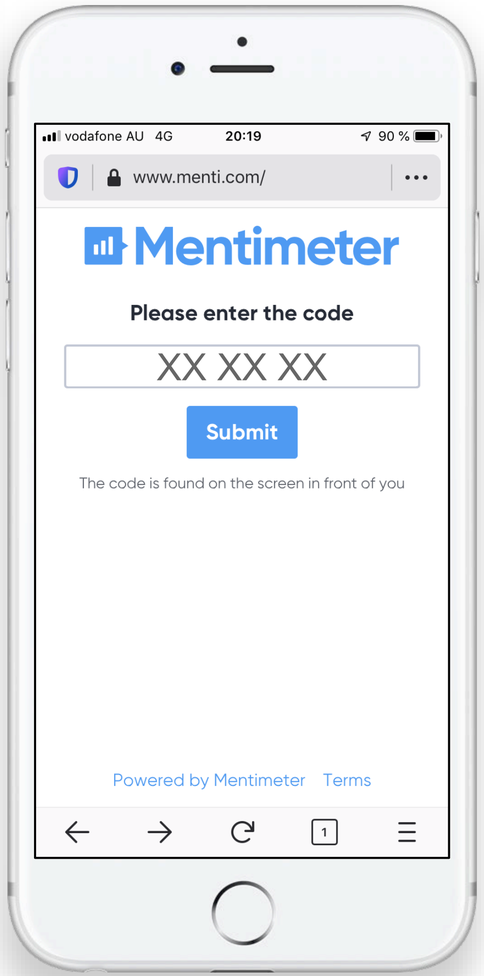
Key Performance Indicators



Step One

DEFINING KPIS

Key Performance Indicators allow us to measure and discuss what we are trying to improve.



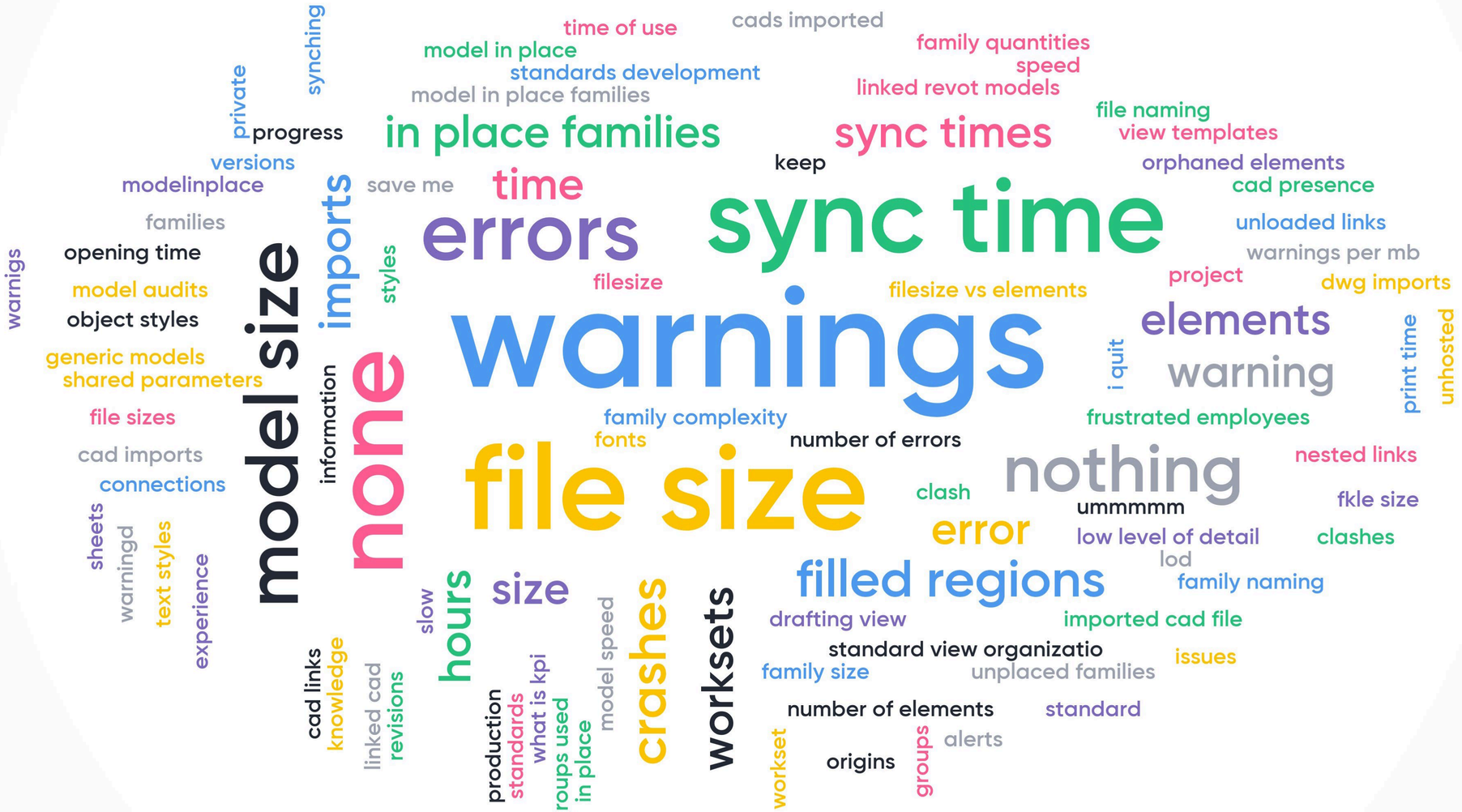
Which KPIs Do You Measure?

Grab your Phone

Go to www.menti.com

Enter the Code and Vote!

Which KPIs Do You Measure?



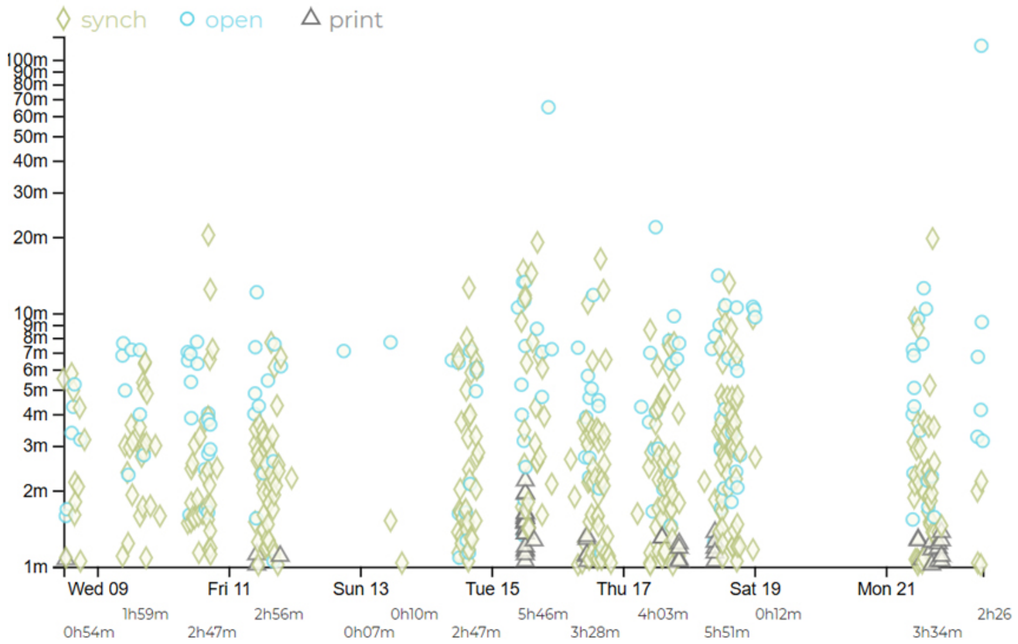
93

Key Performance Indicators

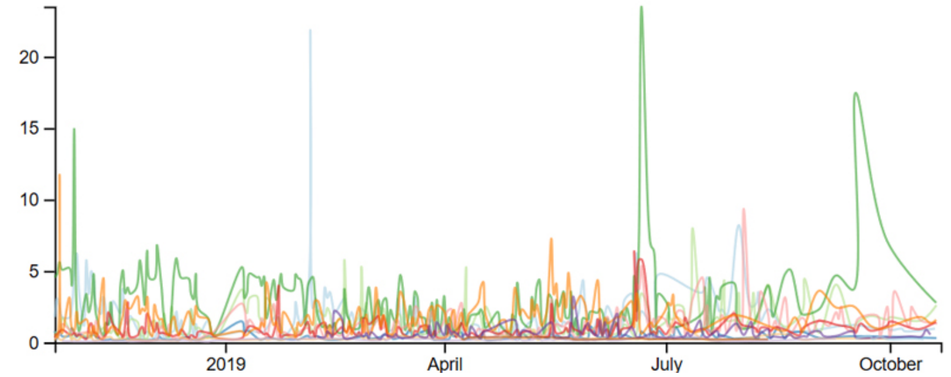
Performance

- Opening
- Synchronizing
- Printing

Performance (activities > 1 min)



Avg Synch Time (min)



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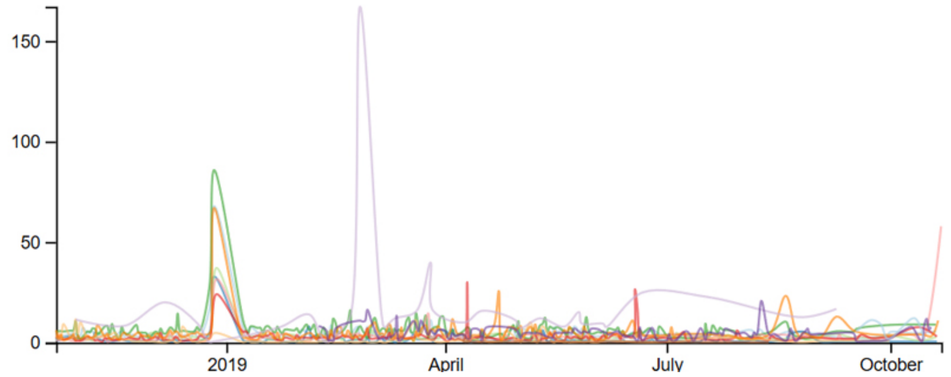

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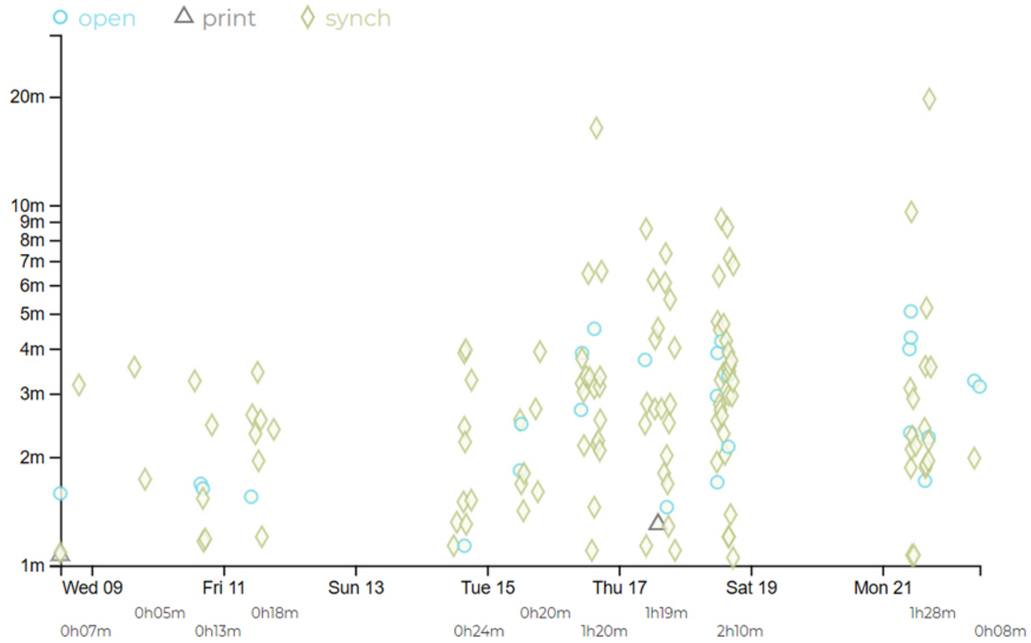

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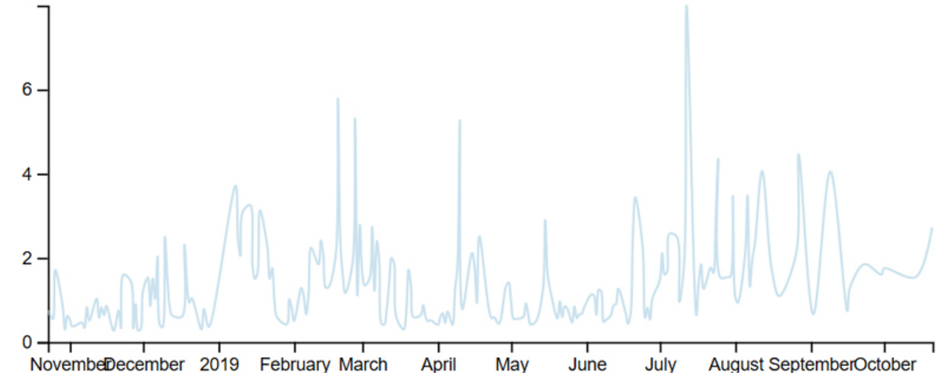

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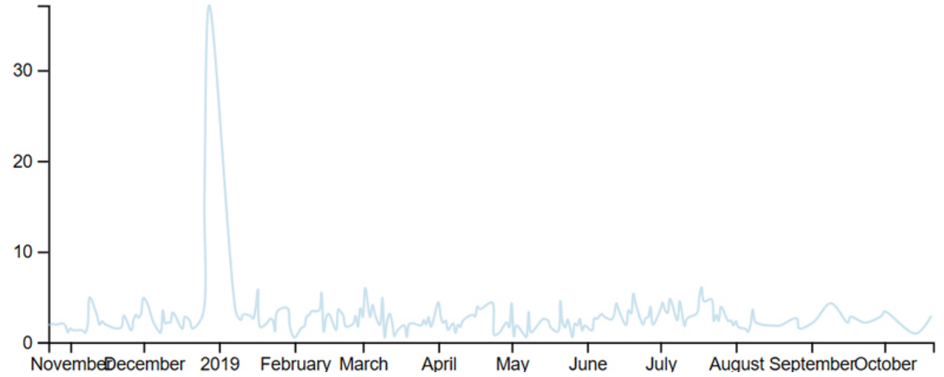


Key Performance Indicators

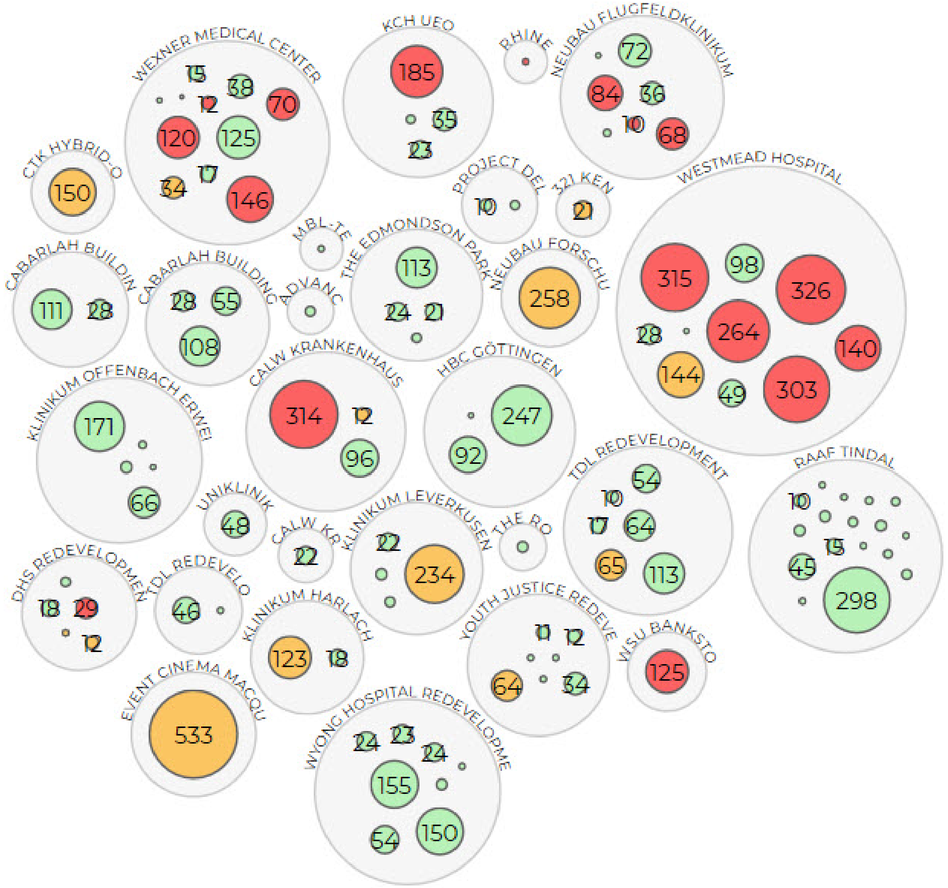
Performance

- Opening
- Synchronizing
- Printing

Model Size

- X < 300 MB
- 300 MB < X > 401MB
- X > 400 MB

Model size (size indicates the amount of activity, color indicates model size issue)



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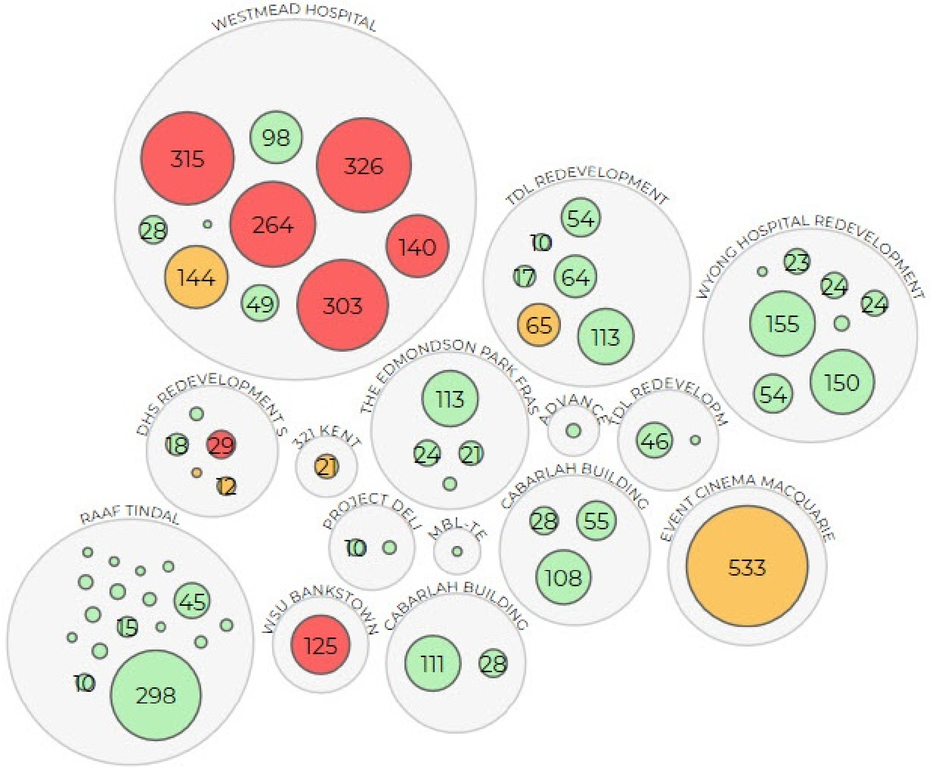

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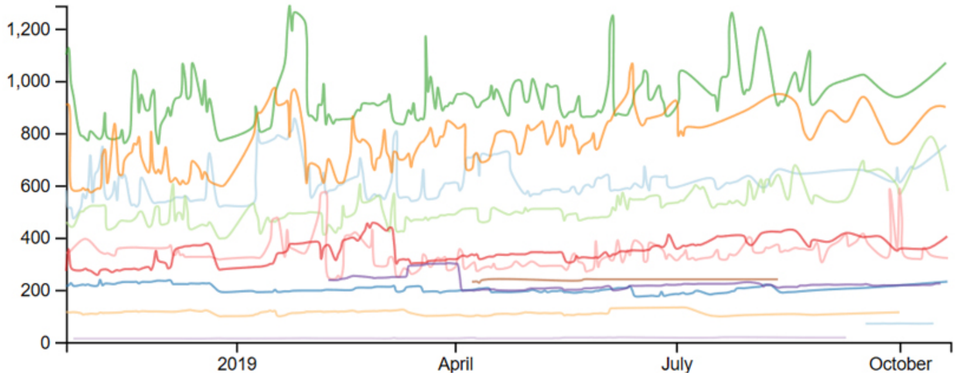

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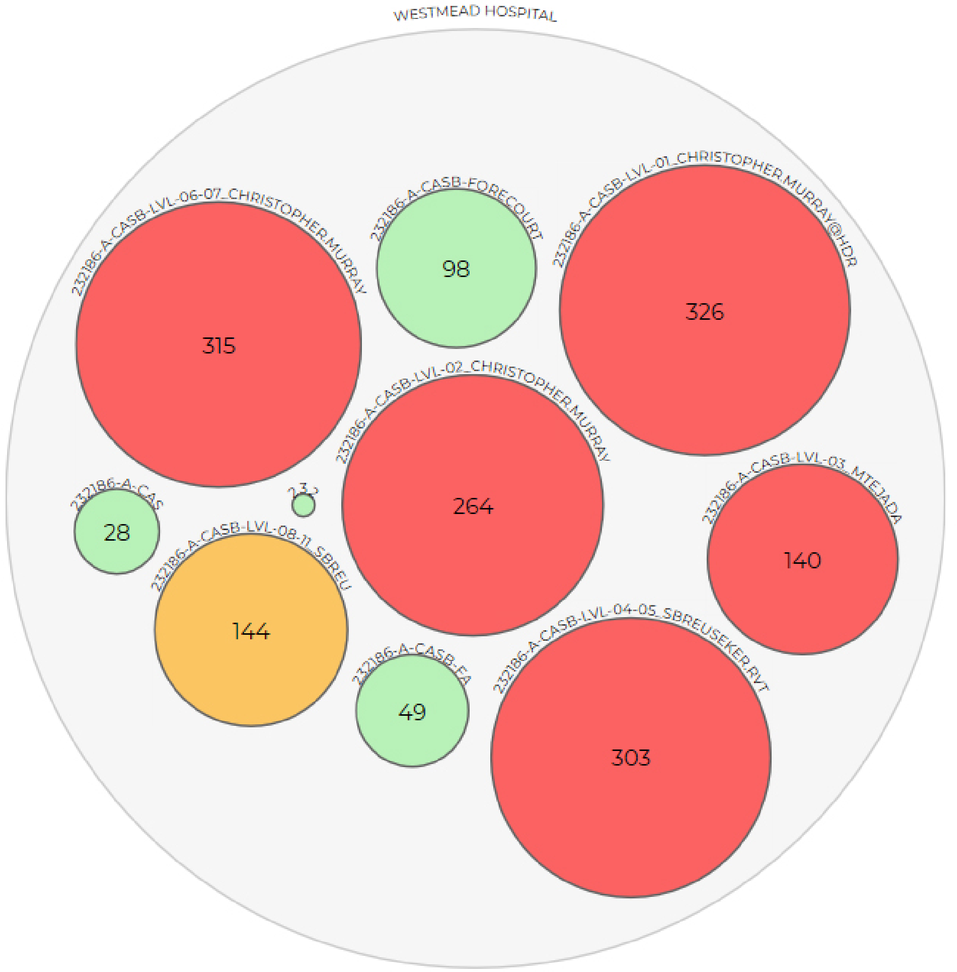

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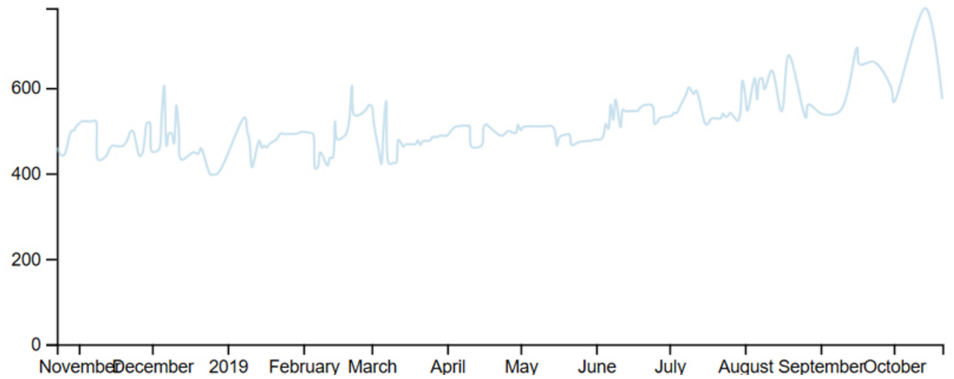

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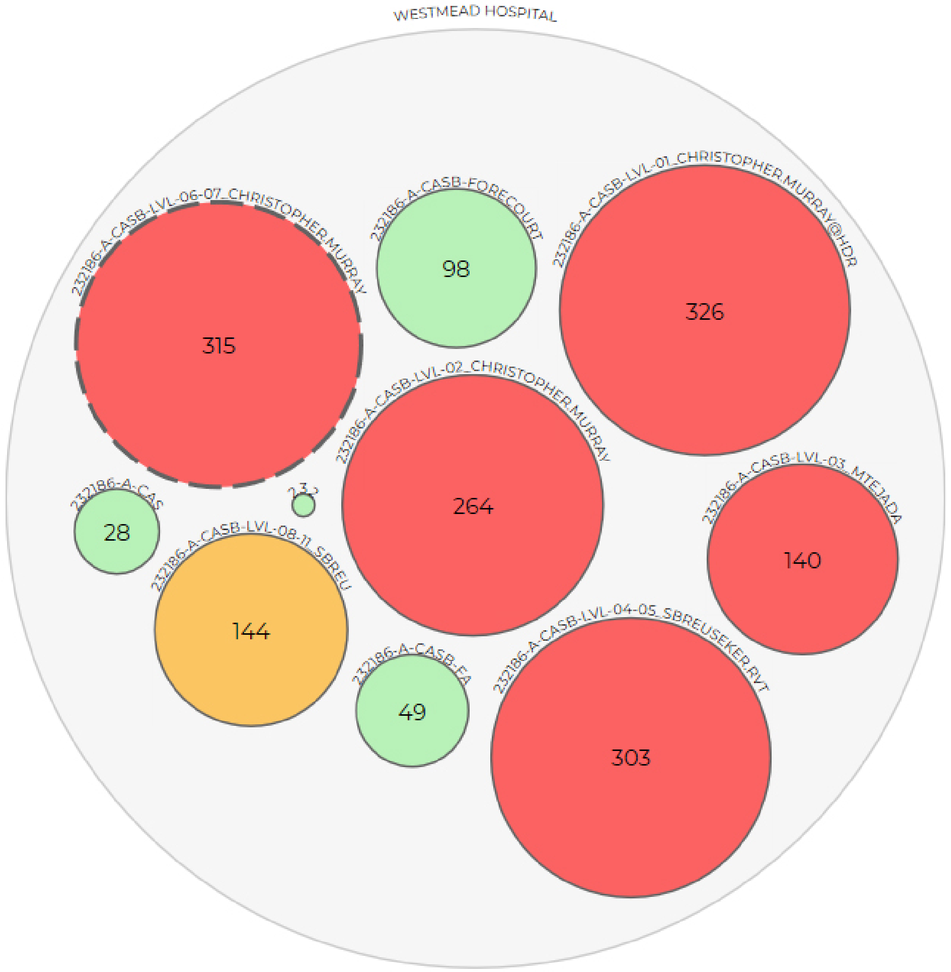

Key Performance Indicators

Performance

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- Synchronizing
- Printing

Model Size

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- X > 400 MB

File Data

- Warnings
- Unused Groups + Families
- In-place Families
- Unenclosed + Unplaced Rooms
- CAD Links + Imports + Images
- Views with no View Template
- Views not on Sheet
- Views with Clipping Disabled
- Design Options + Worksets

Team

NAME	ACTIVITIES
A. WAUGH	14
B. CROCKER	33
J. OCRUZ	11
P. BEZCHI	63
Q. SONG	32
R. HECTOR	13
S. LIU	149

1

User Info

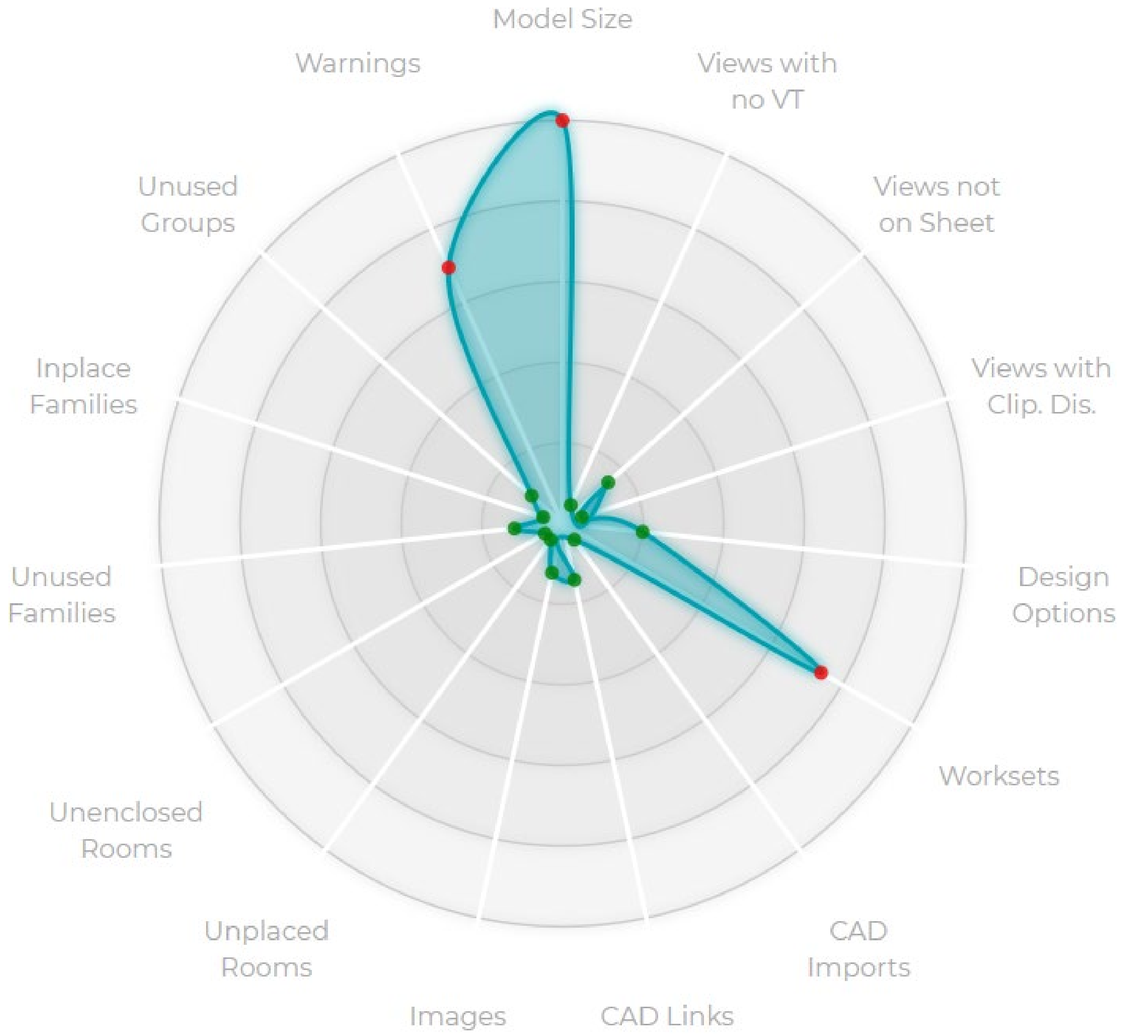
Jose Edgar Cruz

BIM Manager

North Sydney,
New South Wales

@hdrinc.com

Australia



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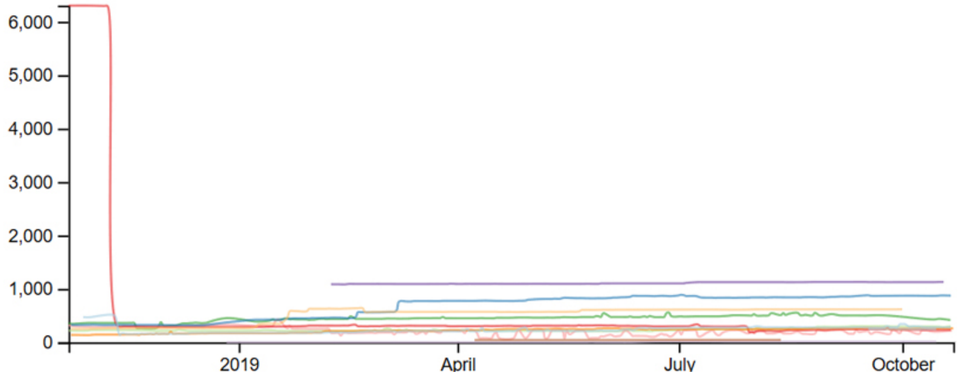

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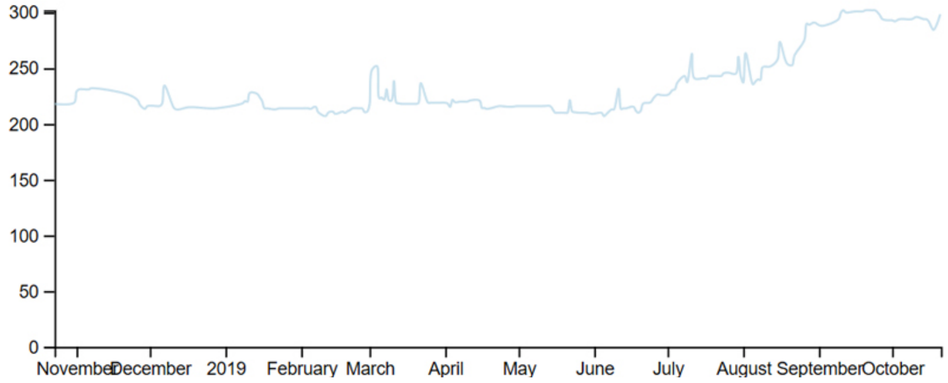


Infrastructure

Step Two

DEFINING KPIS

Key Performance Indicators allow us to measure and discuss what we are trying to improve.

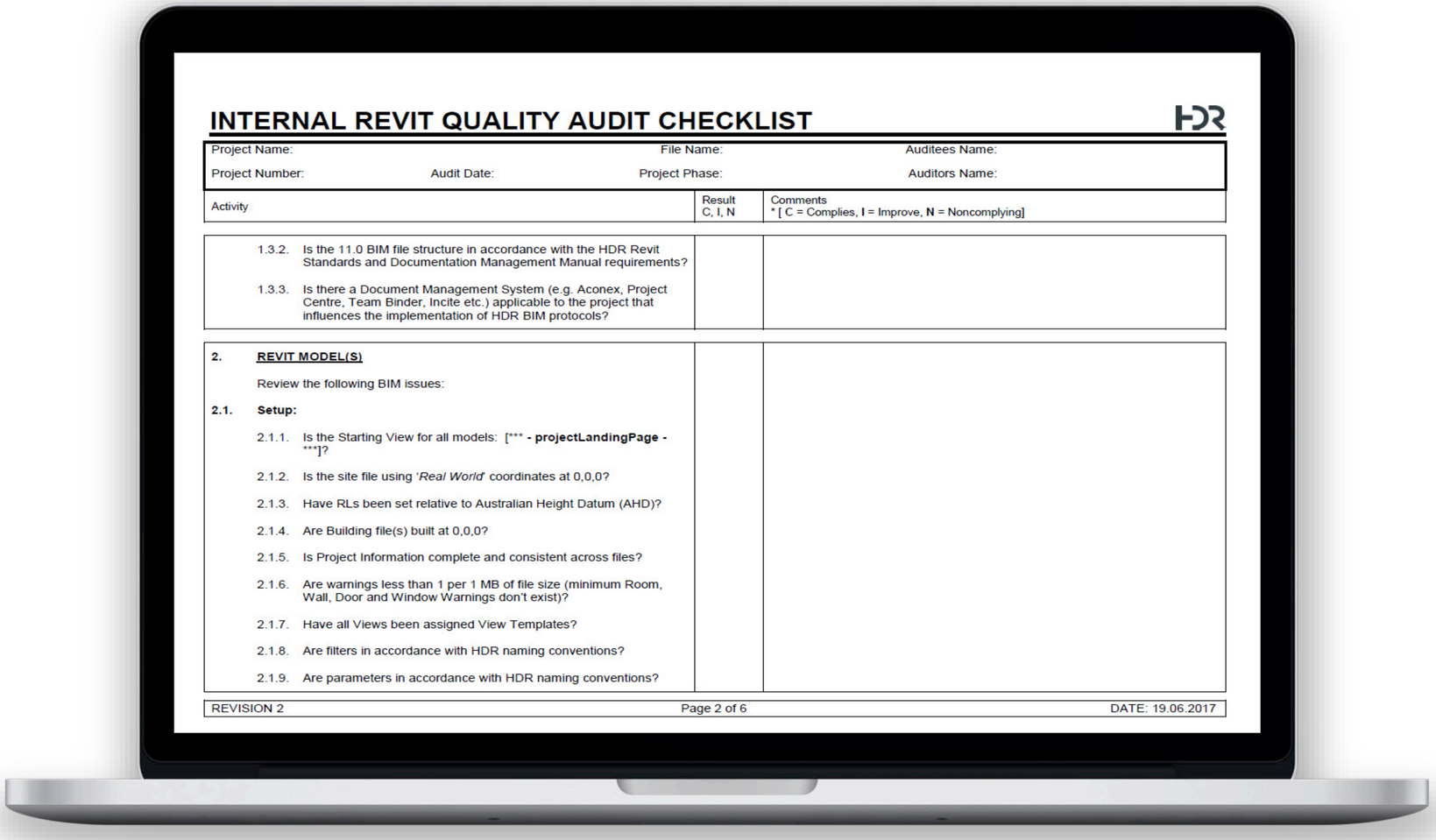
INFRASTRUCTURE

Infrastructure includes various pieces of software and is an upfront investment.

Infrastructure

MICROSOFT EXCEL

- Data input 100% manually
- Needs to be scheduled
- Time consuming



INTERNAL REVIT QUALITY AUDIT CHECKLIST

Project Name:	File Name:	Auditees Name:
Project Number: Audit Date:	Project Phase:	Auditors Name:

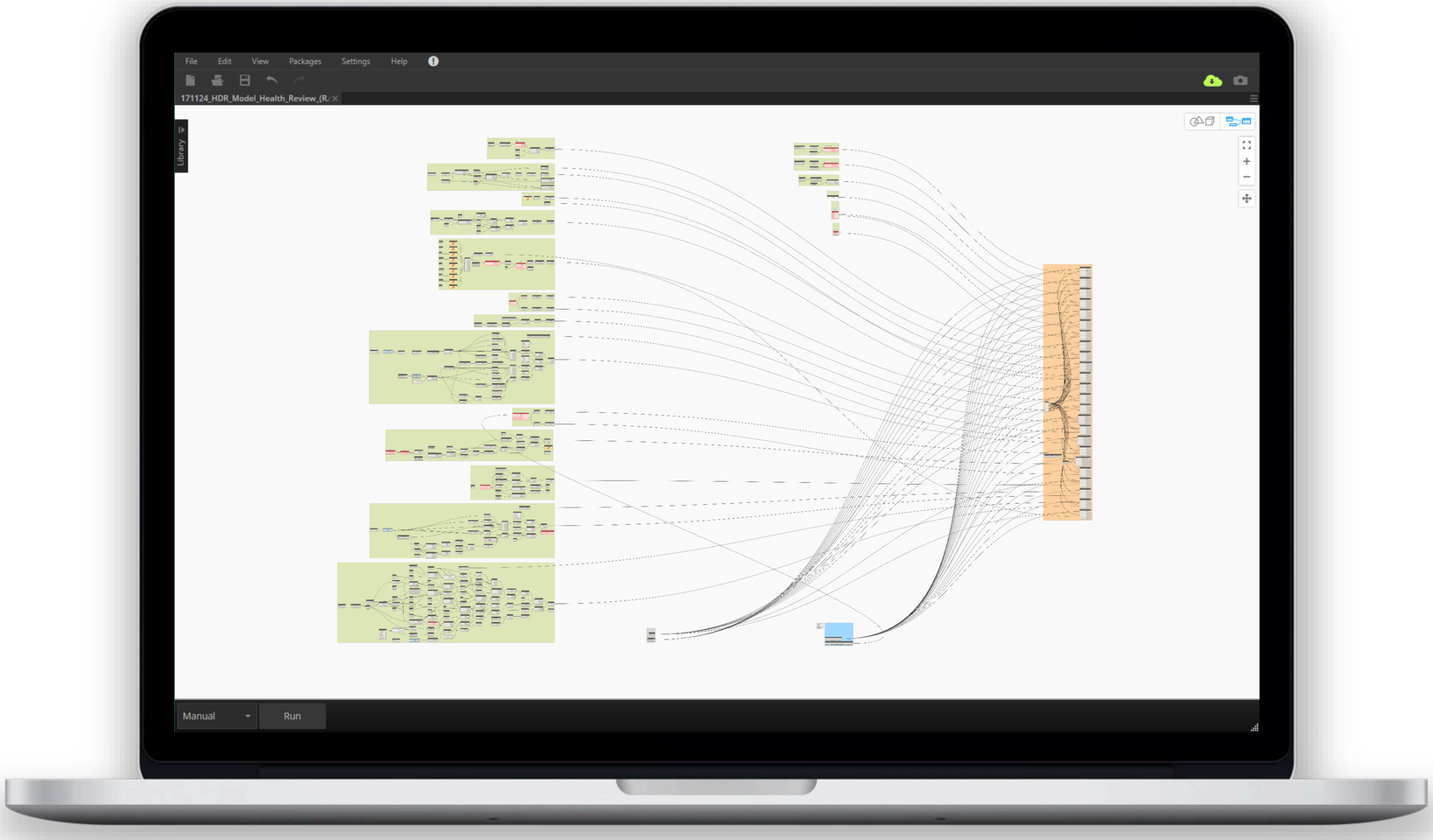
Activity	Result C, I, N	Comments * [C = Complies, **I** = Improve, **N** = Noncomplying]
1.3.2. Is the 11.0 BIM file structure in accordance with the HDR Revit Standards and Documentation Management Manual requirements?		
1.3.3. Is there a Document Management System (e.g. Aconex, Project Centre, Team Binder, Incite etc.) applicable to the project that influences the implementation of HDR BIM protocols?		
2. REVIT MODEL(S)		
Review the following BIM issues:		
2.1. Setup:		
2.1.1. Is the Starting View for all models: [*** - **projectLandingPage** - ***]?		
2.1.2. Is the site file using '*Real World*' coordinates at 0,0,0?		
2.1.3. Have RLs been set relative to Australian Height Datum (AHD)?		
2.1.4. Are Building file(s) built at 0,0,0?		
2.1.5. Is Project Information complete and consistent across files?		
2.1.6. Are warnings less than 1 per 1 MB of file size (minimum Room, Wall, Door and Window Warnings don't exist)?		
2.1.7. Have all Views been assigned View Templates?		
2.1.8. Are filters in accordance with HDR naming conventions?		
2.1.9. Are parameters in accordance with HDR naming conventions?		

REVISION 2 Page 2 of 6 DATE: 19.06.2017

Infrastructure

DYNAMO & MICROSOFT EXCEL

- Data input partly automated



Infrastructure

DYNAMO & MICROSOFT EXCEL

- Does not start automatically
- Dynamo version control needed
- Warnings via HTML (Revit 2017)

Model Health Review

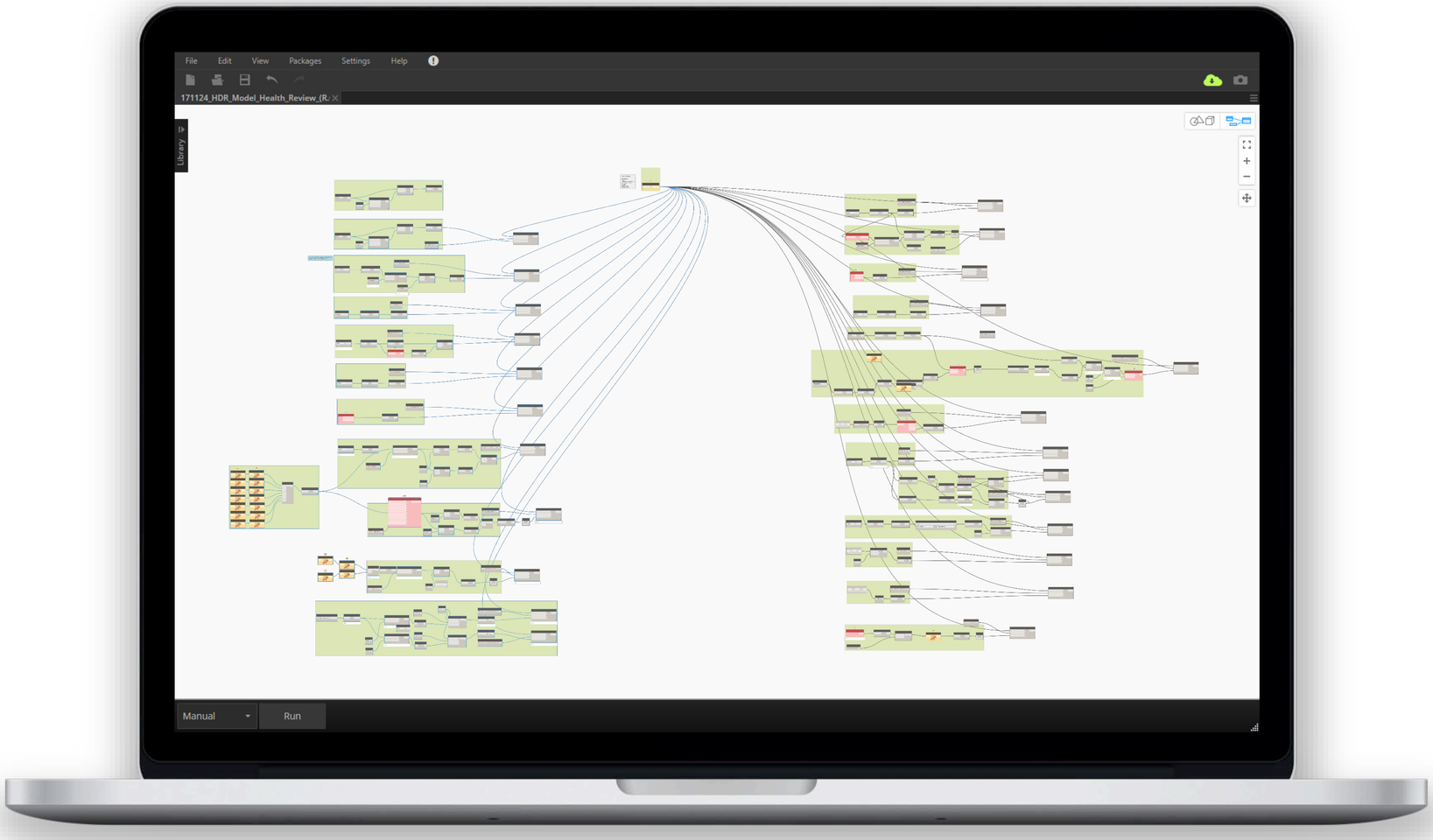
Project Name	BLDG 3613 RENOVATION	Color Code Manual User Input		None Printing Column
Project Number	1007527			
Model Name (Local)	10077527-A-CENTRAL_JBA_BLDG			
Date & Time	8/30/17 9:45 AM			
Next Approx. Review Date	9/14/2017	Color Code Automated Script Input		
Revit Version	2017			
Revit Build No.	20170118_1100(x64)			
Reviewed By	RCROKE			Notes & Instruction
Model Size (MB)	56	<---------- Model size is acceptable (Below 400MB)		<-----Model Manager or BIM Manager, manually enter the models file size in MB into cell B10 if it does not auto populate
Issues to Check	Results	Assessment	Comments & Considerations	Unless otherwise noted in this column, all data is populated by the Dynamo Script
Total Model Warnings	No. of Warnings 42	Action Required. Reduce warnings to improve model performance and minimize risk of model corruption. Total number of warnings exceed 1/3 of the model size in MB	Maximum Acceptable 19	Model Manager or BIM Manager, manually input the total number of model warnings into cell B13 if NOT Automatically populated.
Copy/Monitor Warnings	No. of Coordination Review 0	Good! No Action Required	NOTE: Only include copy/monitored items such as Levels, Grids, Floors, etc...	Model Manager or BIM Manager, How many Coordination Review Warnings are associated with ANY Revit Link? Insert number in cell B15. (NOTE: This is NOT referring to Clash Detection)
Model Groups	8	Good! No Action Required	NOTE: As a general rule we should limit groups because they do a lot to increase model sizes. Avoid creating groups when they are not needed.	Model Manager or BIM Manager, Please limit use of Model Groups as they increase the model size dramatically. Check you groups for instances of 2 or less, if there is only 1 or 2, a group is not necessary.
Worksets	0	Good! No Action Required	Worksets should not be used like AutoCAD layers	Model Manager or BIM Manager, There are 26 Standard HDR Worksets, use caution when creating more, they may not really be needed.
Elements are on the proper Worksets	Yes	Good! No Action Required	Consider having a 3D view for each Workset for easy checking, we have a Dynamo Script to create those for you automatically.	Model Manager or BIM Manager, open a 3D view or 3D Workset views -> Workset Check view and turn on "Worksharing Display: Worksets". Review objects to validate if they are on the correct worksets. Select "Yes" or "No" in cell B17 based on what you find.
Phase naming is consistent with other models	Yes	Good! No Action Required	The Project team should make sure all Phase names are consistent with all models, and remember, Demo is NOT a Phase.	Model Manager or BIM Manager, review phases (Manage ribbon --> Phases --> Project Phases tab) in all models and denote in cell B18 if difference exist between project models. If differences, talk to team and make notes in cell E18 if they are to stay and why. If staying, check phase mapping of linked files.
Design Options naming is consistent in all models when applicable	Yes or N/A	Good! No Action Required	Design Options can be tricky and used when inapropriate, please consider how you are using them.	Model Manager or BIM Manager, review Design Options (if exist) for consistency in naming between all project model files. Denote results in cell B19. Select "N/A" if design options are not used on the project.

Page 1

Infrastructure

DYNAMO & DYNAMO PLAYER

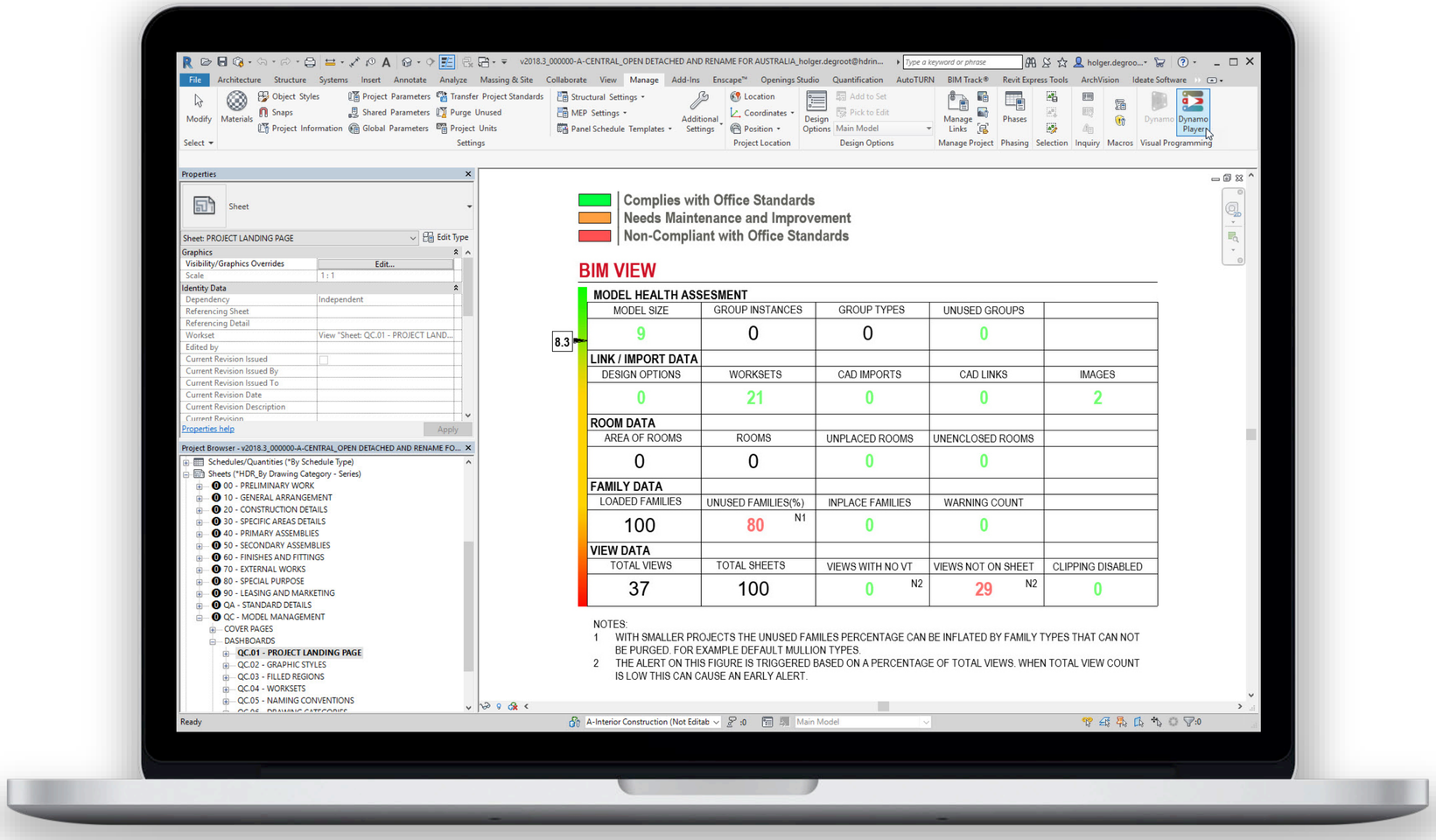
- Warnings directly available
- Data input 100% automated



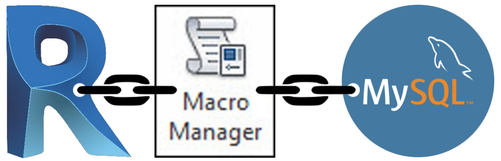
Infrastructure

DYNAMO & DYNAMO PLAYER

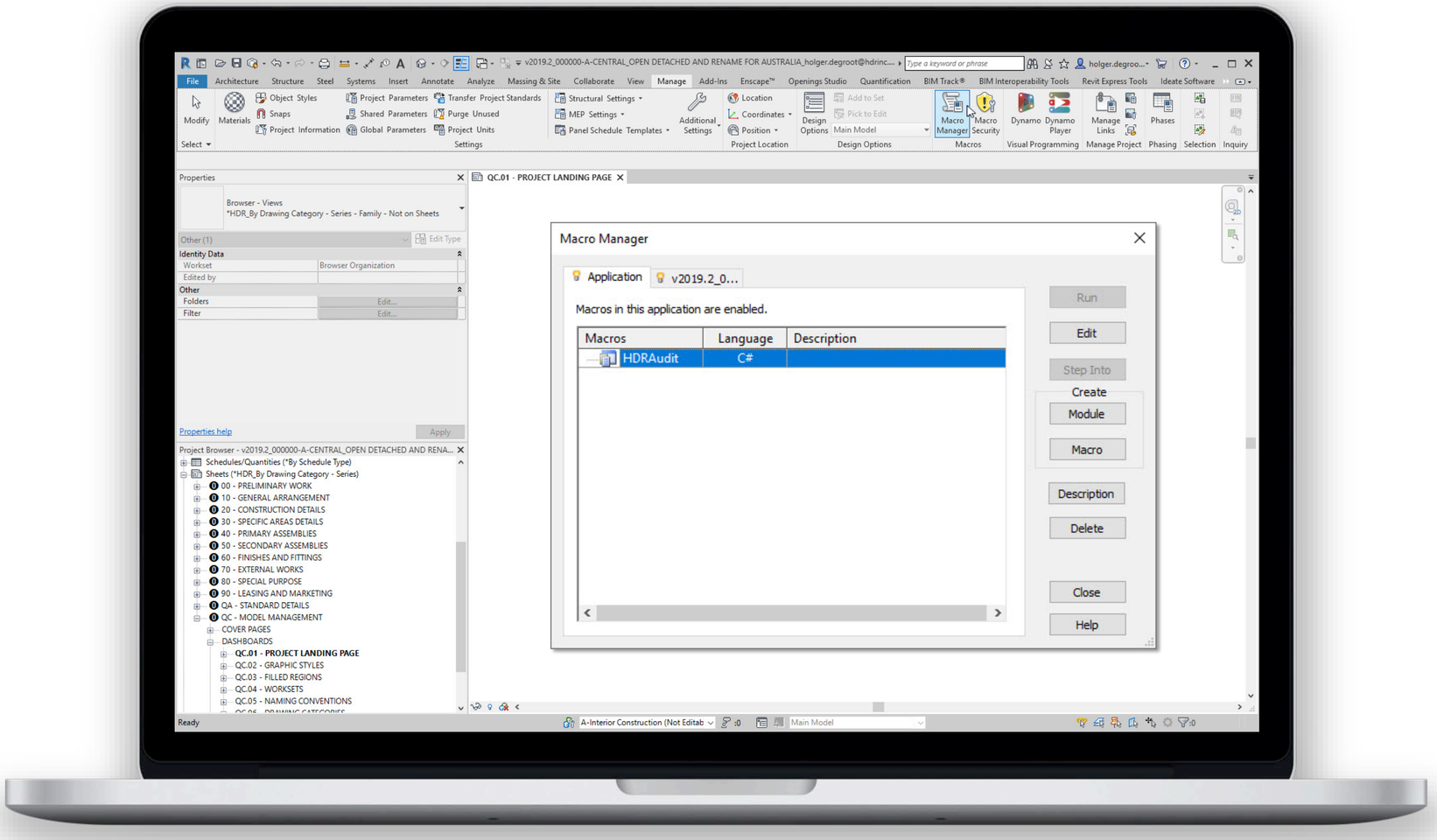
- Does not start automatically
- Dynamo version control needed
- Graph takes 1½ Minutes / Model



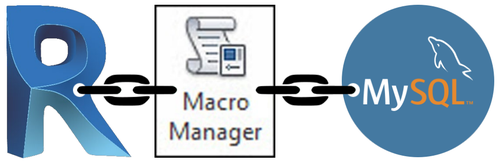
Infrastructure



MACRO MANAGER & MYSQL



Infrastructure



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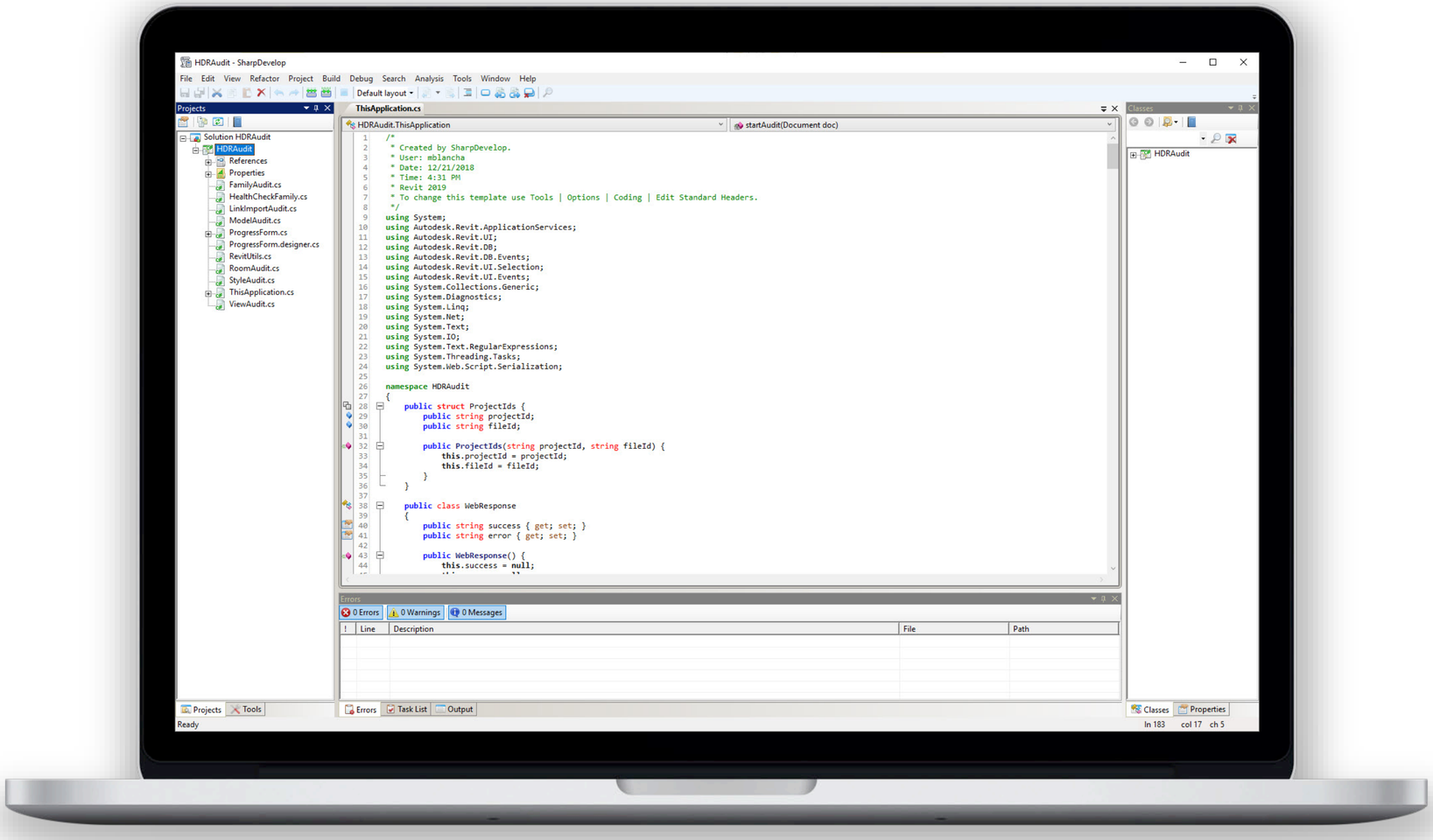
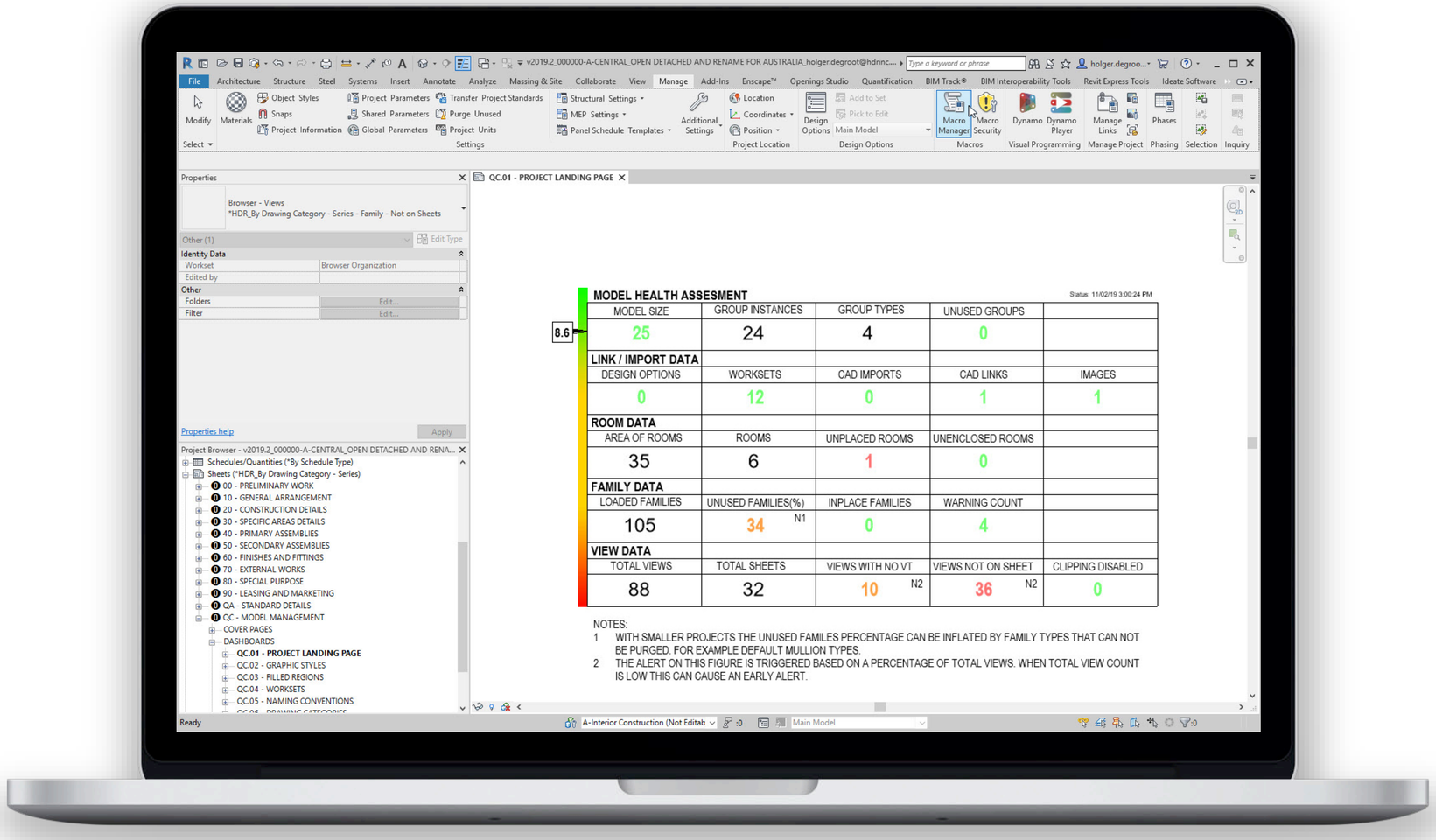


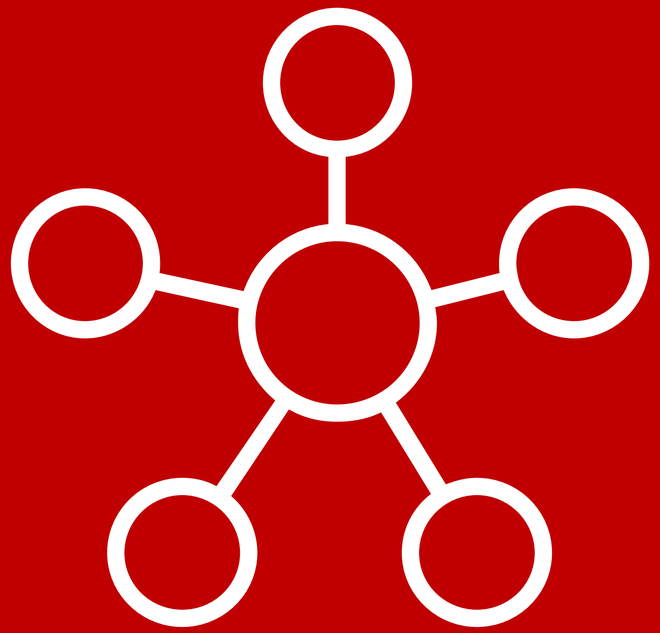
Infrastructure

MACRO MANAGER & MYSQL

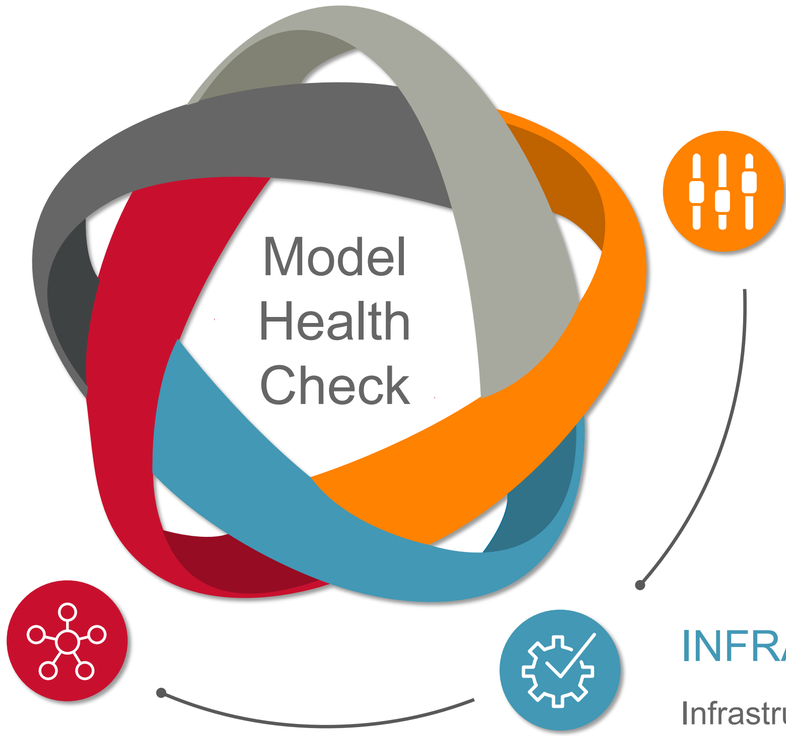
- Starts automatically
- Data input 100% automated



Collecting Data



Step Three



DEFINING KPIS

Key Performance Indicators allow us to measure and discuss what we are trying to improve.

COLLECTING DATA

Integrating the structure and collecting the data of the individual models.

INFRASTRUCTURE

Infrastructure includes various pieces of software and is an upfront investment.

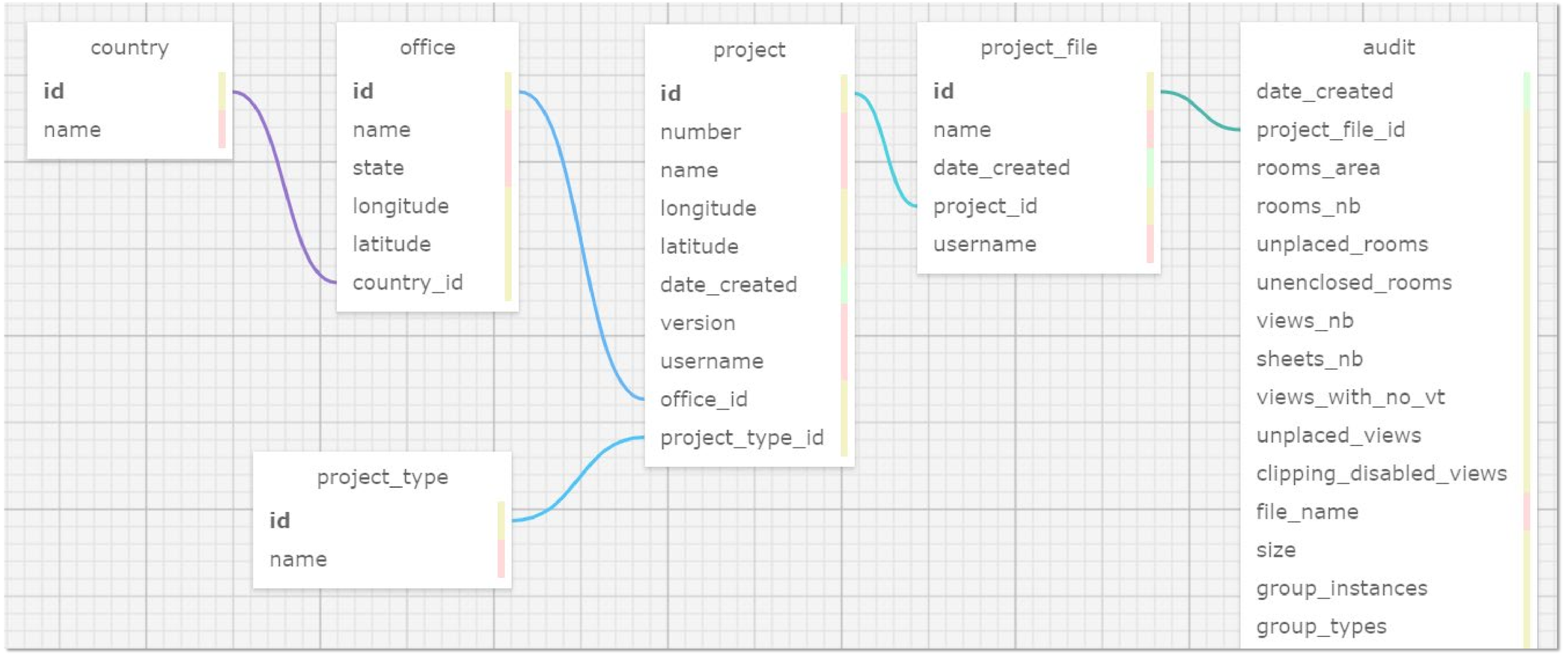
Collecting Data

MACRO PROCESS OVERVIEW

```
// 1. Register event when user synchronizes the document
this.Application.DocumentSynchronizedWithCentral += new EventHandler(Application_DocumentSynchronized);
// 2. Get the data when the user synchronizes
FilteredElementCollector collector = new FilteredElementCollector(doc).OfClass( typeof( SpatialElement ) );
foreach(SpatialElement e in collector) {
        // count number of rooms, room area, check if room is placed, …
}
// 3. Post data to the webserver
var request = (HttpWebRequest)WebRequest.Create("https://myauditserver/audit.php");
var stream = request.GetRequestStream()
stream.Write("mode=AuditFile? rooms_area =roomArea &rooms_nb = roomNb", …);
var response = (HttpWebResponse)request.GetResponse();
// 4. Find the Health Check family in the project file
IEnumerable<FamilyInstance> instances = new FilteredElementCollector( doc ).OfClass( typeof( FamilyInstance ) ).Where( x
=> x.Symbol.Family.Name.Equals("Health Check family" ) );
// 5. Update the Health Check family
Parameter param = instance.LookupParameter("Number of Rooms");
param.Set(roomNb);
```

Collecting Data

DATABASE OVERVIEW - SCHEMA



Collecting Data

DATABASE OVERVIEW - VIEWS

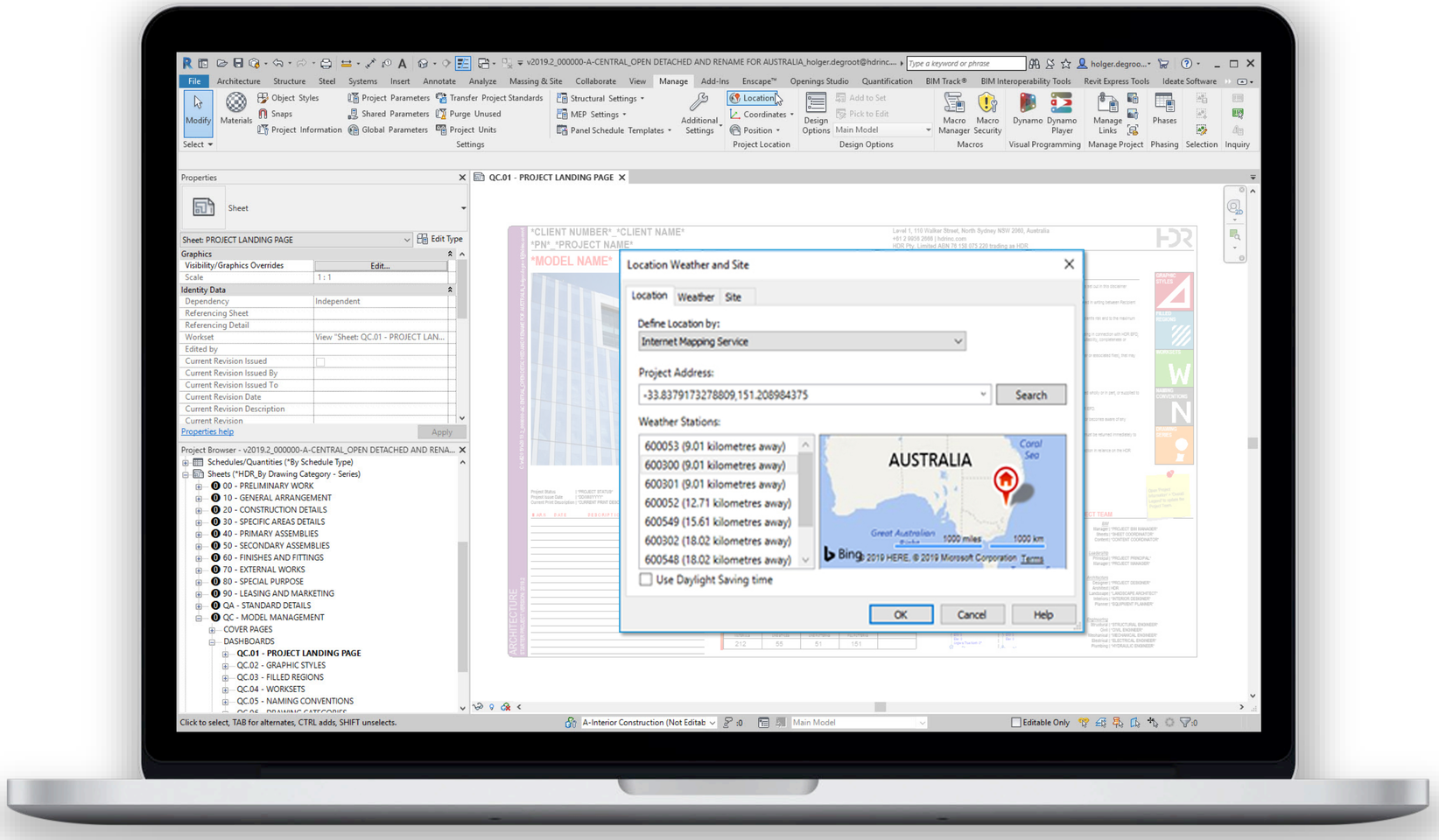
```
SELECT project.id as

FROM project

INNER JOIN project_file ON project.id = project_file.project_id

INNER JOIN audit_activity ON project_file.id = audit_activity.project_file_id

WHERE (audit_activity.date_created > DATE_SUB(now(), INTERVAL 14 DAY))
```

BIM View – Setup

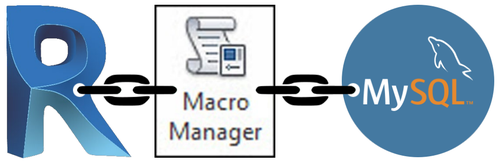
Collecting Data

BIM VIEW – SETUP

Step 1: Define your project's location.



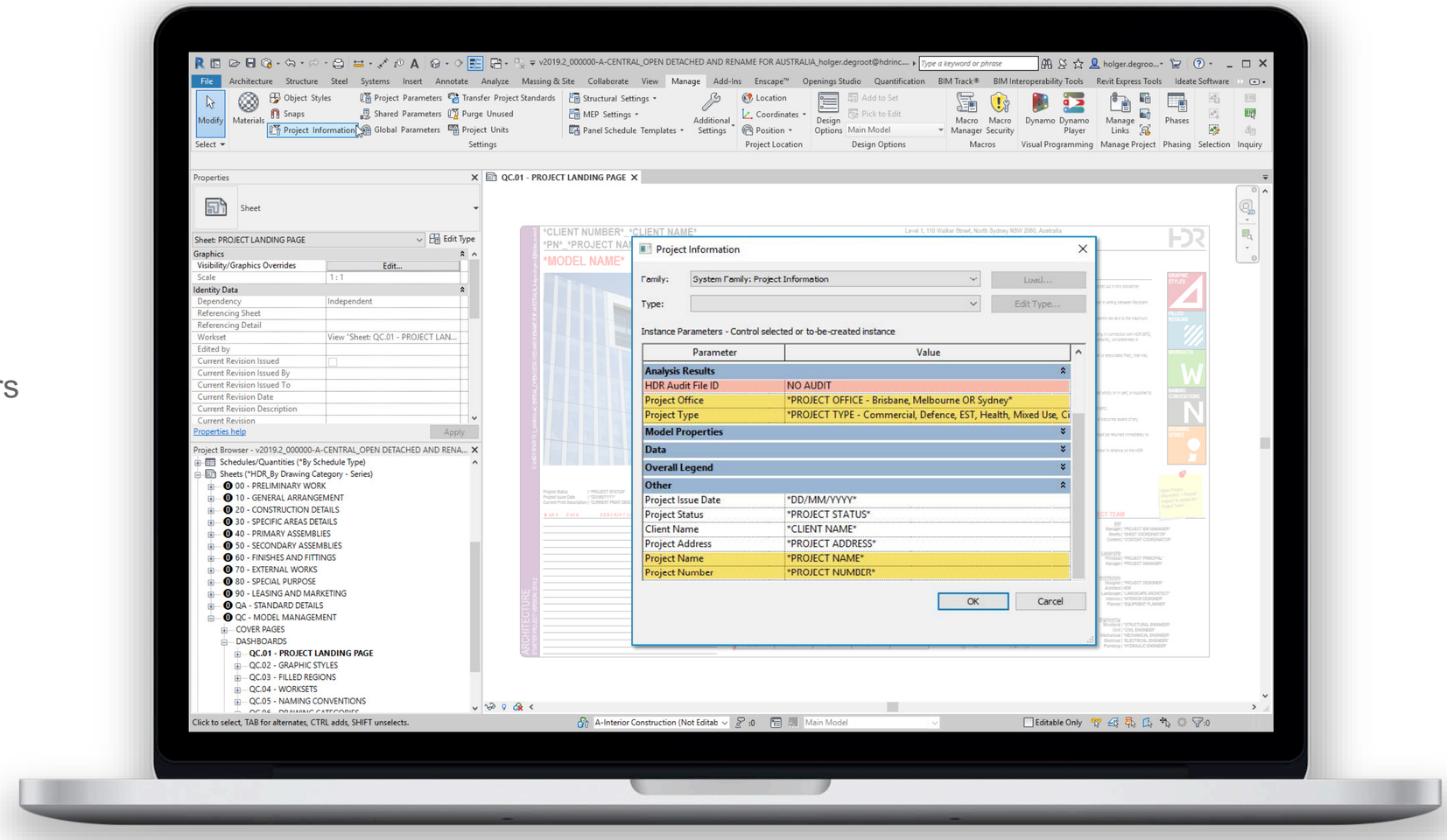
Collecting Data



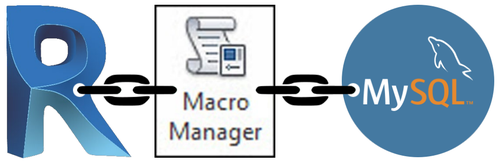
BIM VIEW – SETUP

Step 1: Define your project's location.

Step 2: Fill out the 'BIM View' parameters under 'Manage' > 'Project Information'.



Collecting Data

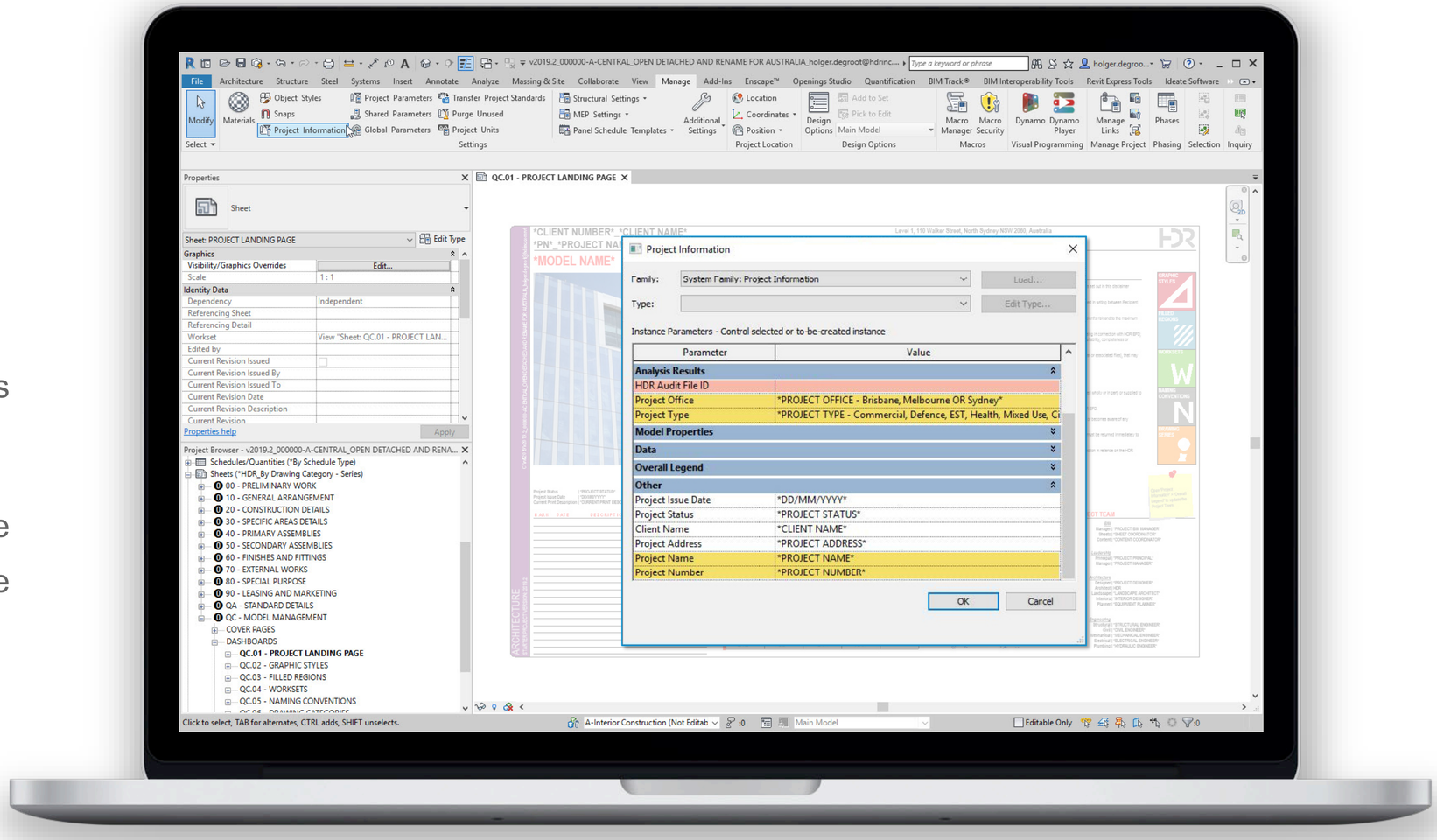


BIM VIEW – SETUP

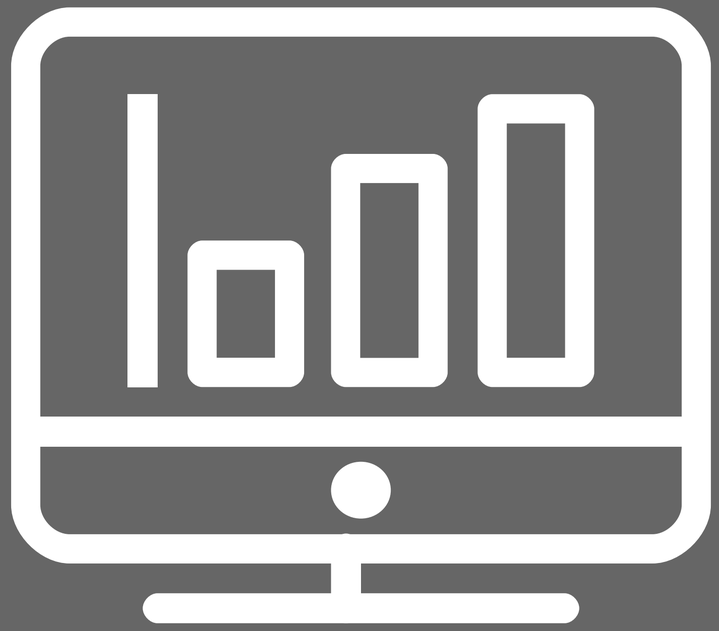
Step 1: Define your project's location.

Step 2: Fill out the 'BIM View' parameters under 'Manage' > 'Project Information'.

Step 3: Delete the 'NO AUDIT' value under 'HDR Audit File ID'. This field will be populated upon successful initial audit.



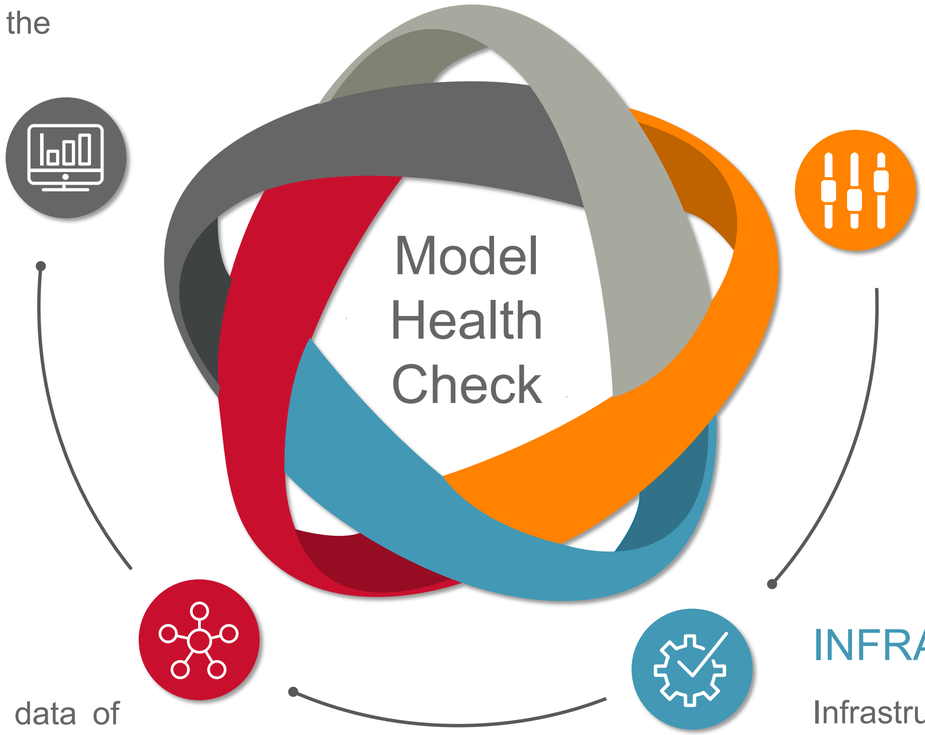
Visualising Data



Step Four

VISUALISING DATA

Visualising the data that will be used to measure the quality of your models.



DEFINING KPIS

Key Performance Indicators allow us to measure and discuss what we are trying to improve.

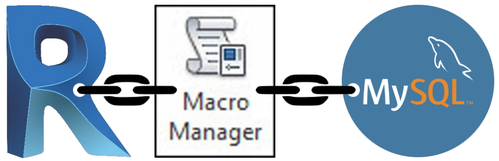
COLLECTING DATA

Integrating the structure and collecting the data of the individual models.

INFRASTRUCTURE

Infrastructure includes various pieces of software and is an upfront investment.

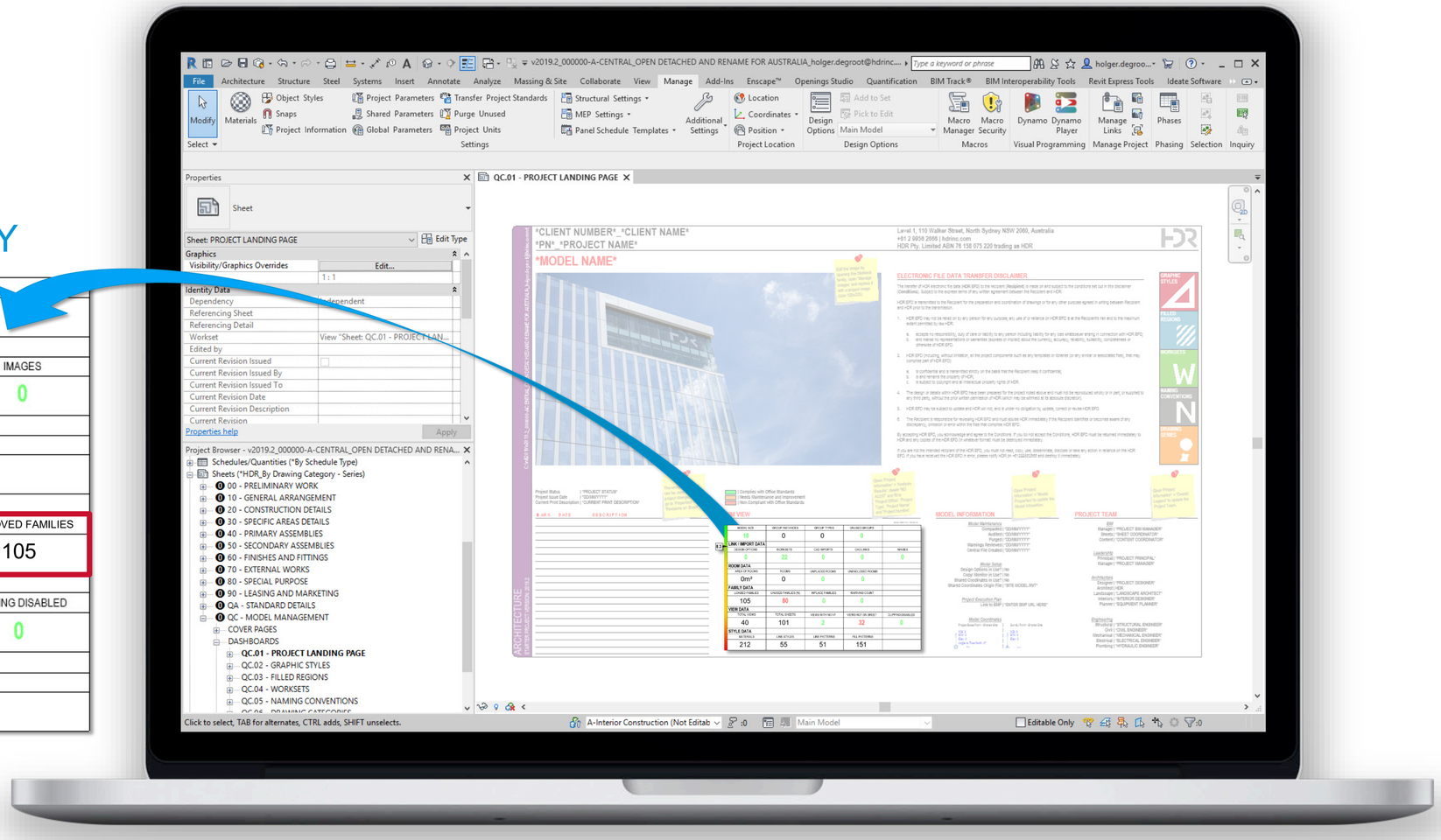
Visualising Data



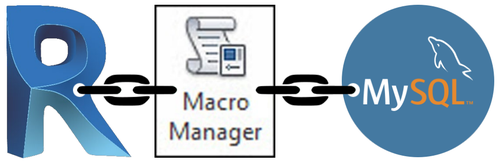
BIM VIEW – HEALTH CHECK FAMILY

8.3

MODEL SIZE	GROUP INSTANCES	GROUP TYPES	UNUSED GROUPS	
18	0	0	0	
LINK / IMPORT DATA				
DESIGN OPTIONS	WORKSETS	CAD IMPORTS	CAD LINKS	IMAGES
0	22	0	0	0
ROOM DATA				
AREA OF ROOMS	ROOMS	UNPLACED ROOMS	UNENCLOSED ROOMS	
0m²	0	0	0	
FAMILY DATA				
LOADED FAMILIES	UNUSED FAMILIES (%)	INPLACE FAMILIES	WARNING COUNT	APPROVED FAMILIES
105	80	0	0	105
VIEW DATA				
TOTAL VIEWS	TOTAL SHEETS	VIEWS WITH NO VT	VIEWS NOT ON SHEET	CLIPPING DISABLED
40	101	2	32	0
STYLE DATA				
MATERIALS	LINE STYLES	LINE PATTERNS	FILL PATTERNS	
212	55	51	151	



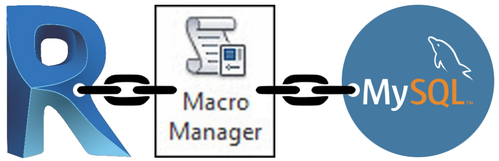
Visualising Data



REVIT – PROJECT LANDING PAGE

- Starting View (High Visibility)
- Data input 100% automated
- Updated every 4 Hours

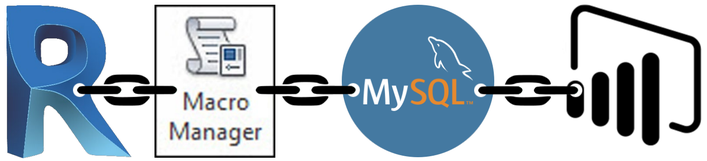
Visualising Data



REVIT – PROJECT LANDING PAGE

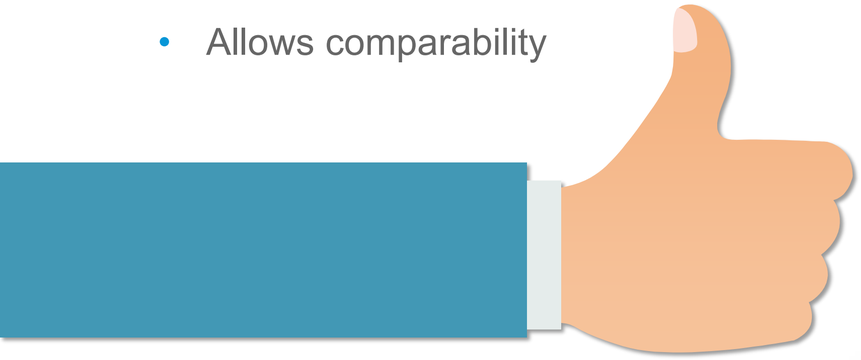
- Only accessible in Revit
- Snapshot of the model state (no history)
- Doesn't allow comparability

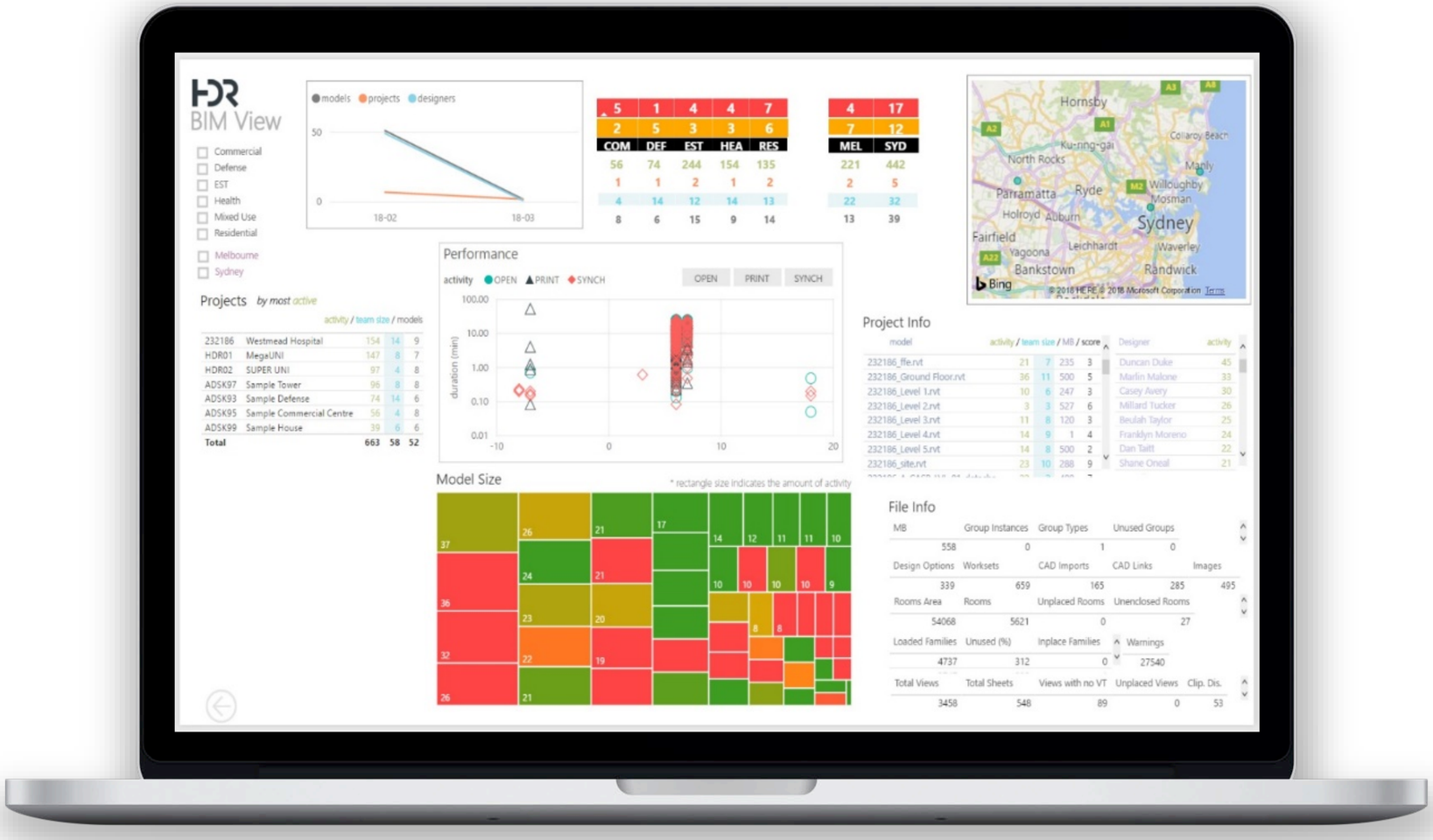
Visualising Data



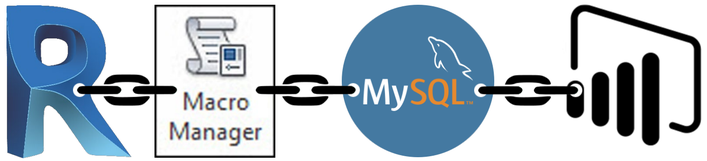
MICROSOFT POWER BI

- Transforms data into rich visuals
- Data input 100% automated
- Accessible to everyone
- Allows comparability



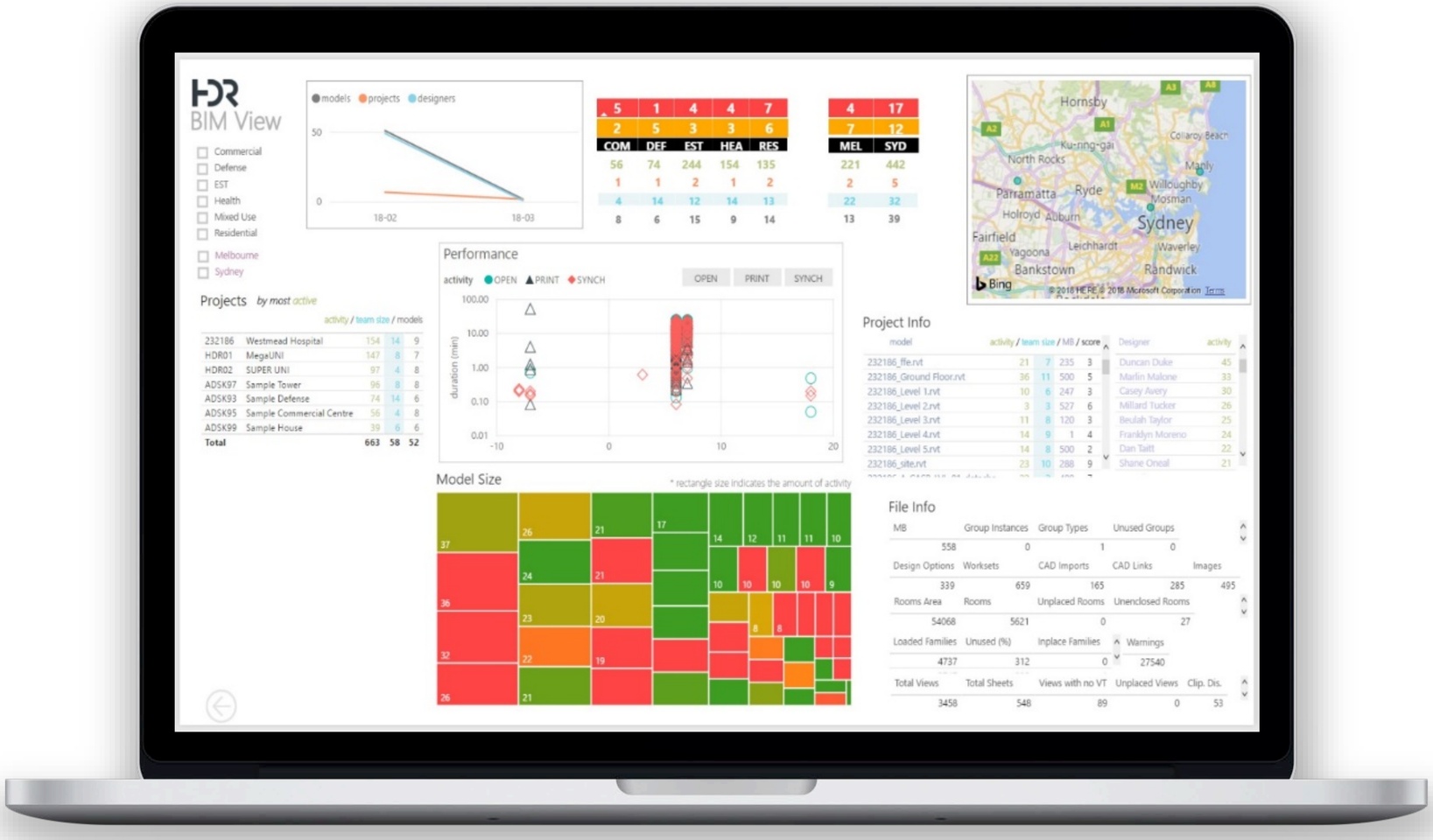


Visualising Data

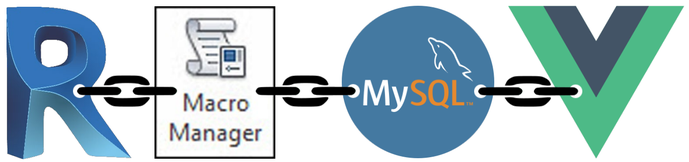


MICROSOFT POWER BI

- License costs (maintenance)
- Compatibility issues (devices)
- Needs training and support

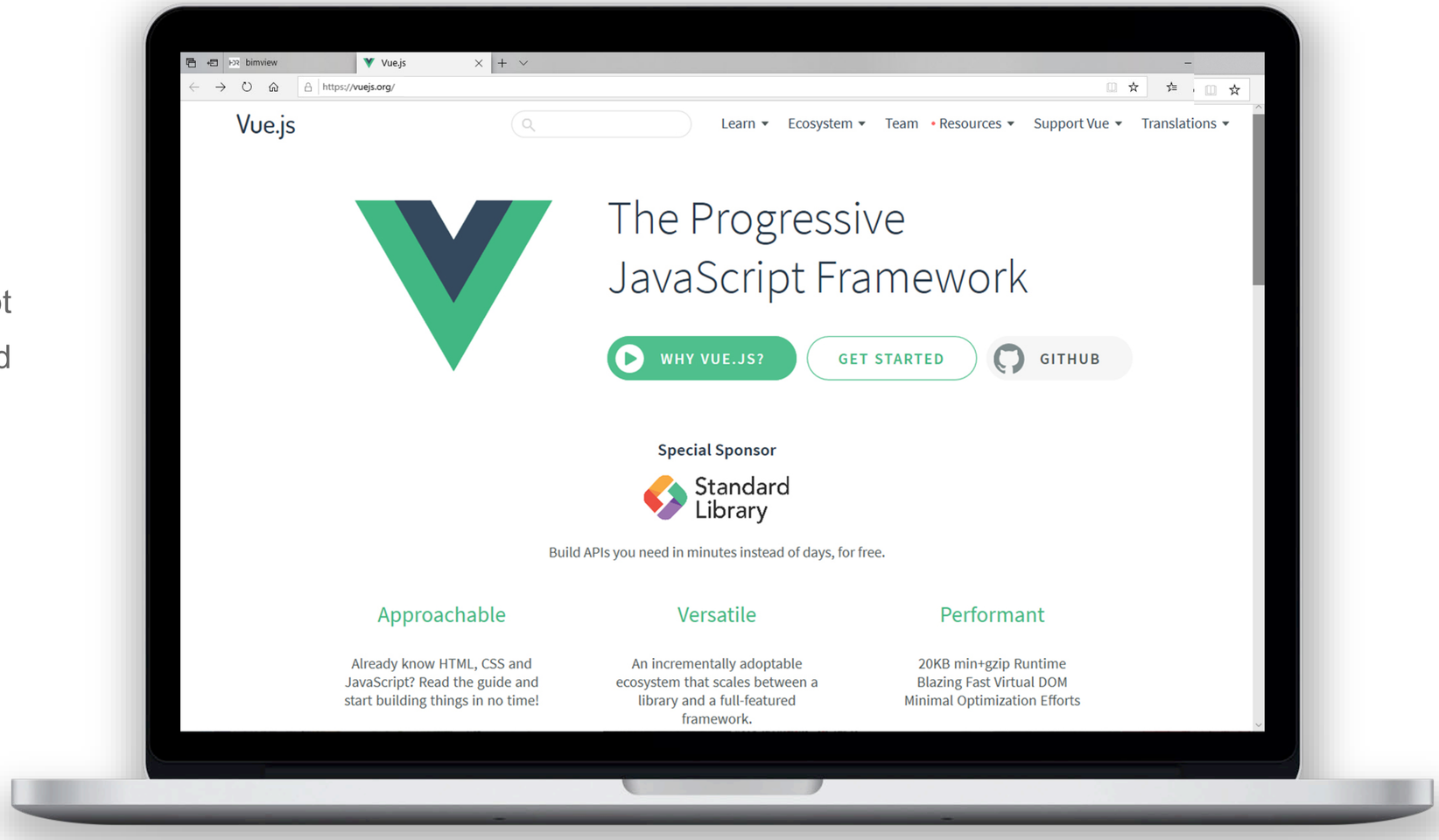


Visualising Data

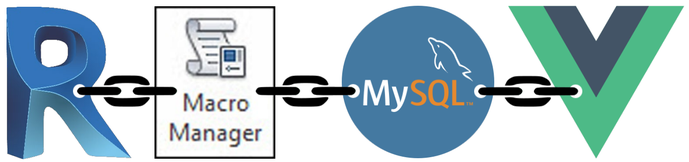


VUE – MODEL-VIEW-VIEWMODEL

Vue.js is an open-source JavaScript framework for building user interfaces and single-page applications.

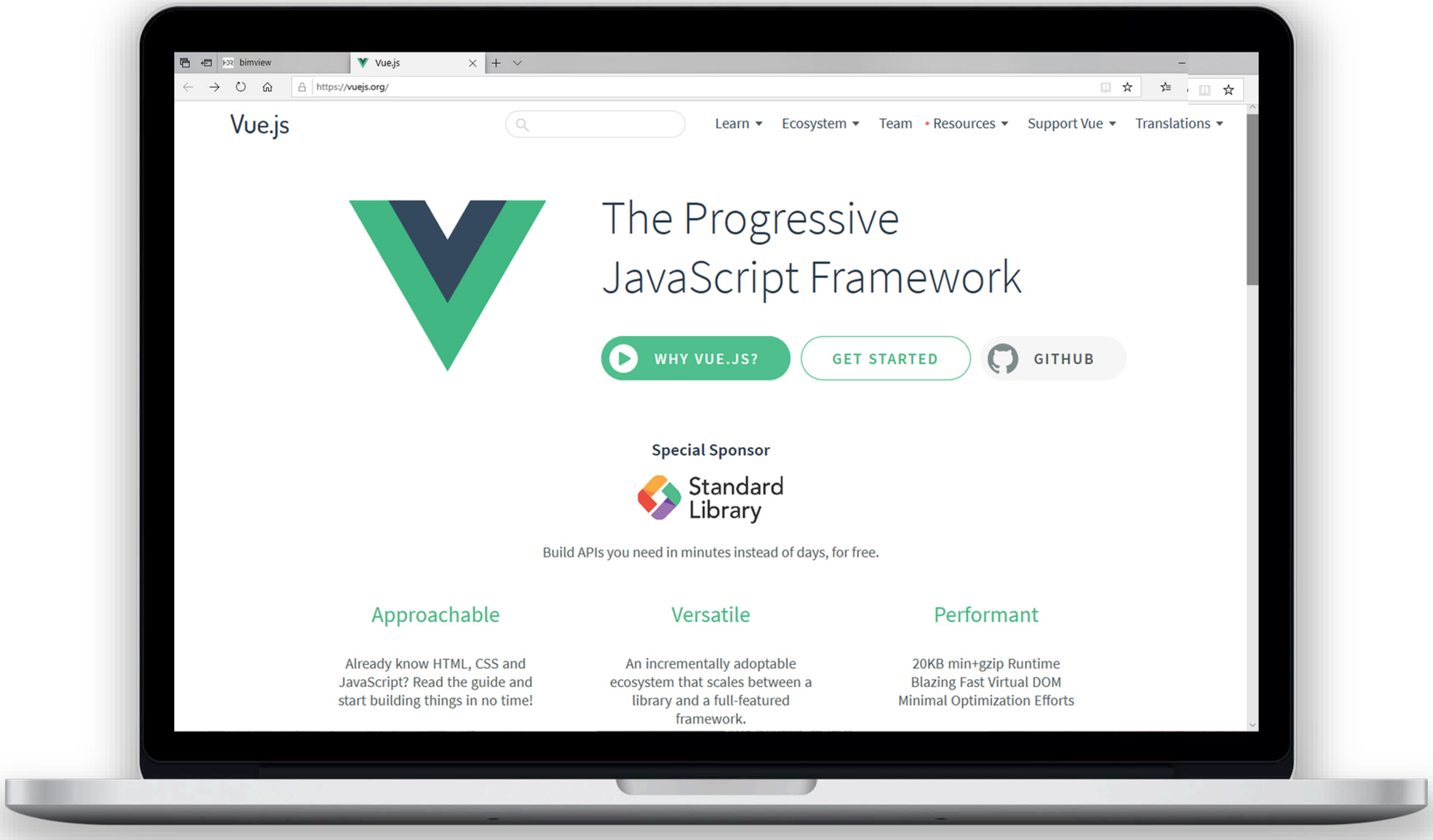


Visualising Data

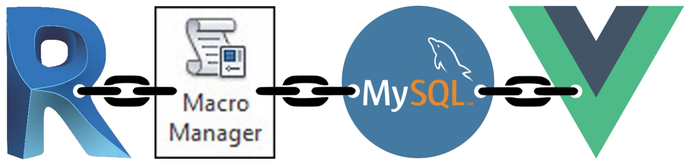


VUE – MODEL-VIEW-VIEWMODEL

- Approachable (HTML , CSS, JS)
- Performant
- Core Libraries
- Maintainable
- Re-usable Components
- Reactive



Visualising Data

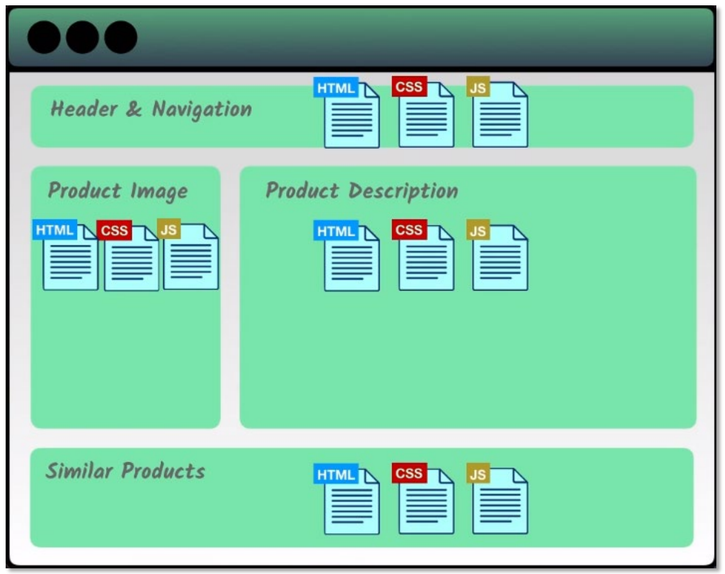


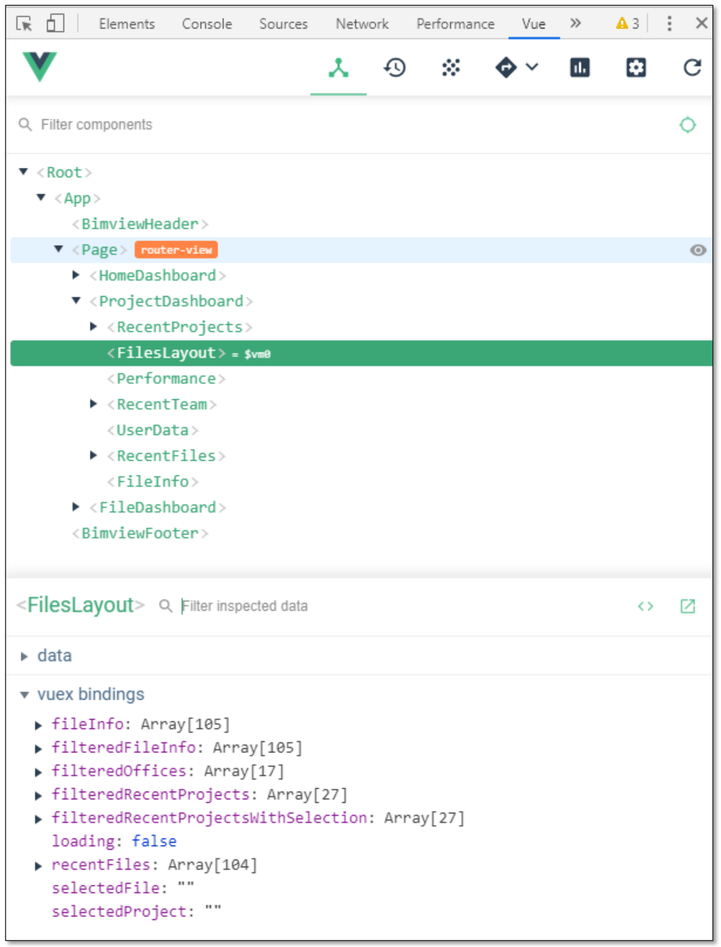
VUE – MODEL-VIEW-VIEWMODEL

HTML	 {{ project }}

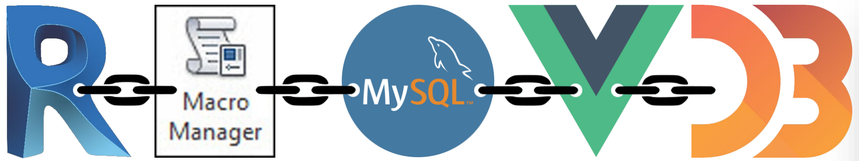
Javascript	export default {
	name: 'bimview-header',
	data: function() {
	return {
	project: 'Westmead' }
	}
	}

CSS	<style lang="scss" scoped> #name { color: #fff; } </style>





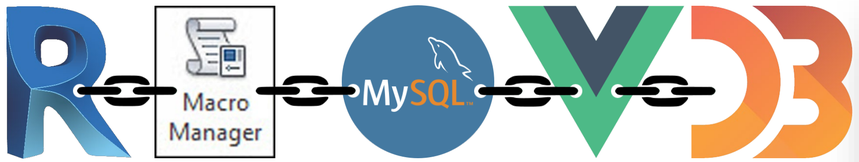
Visualising Data



D3 – DATA-DRIVEN DOCUMENTS

D3.js is a JavaScript library for manipulating documents based on data. It helps users to produce dynamic, interactive data visualizations in web browsers.

Visualising Data

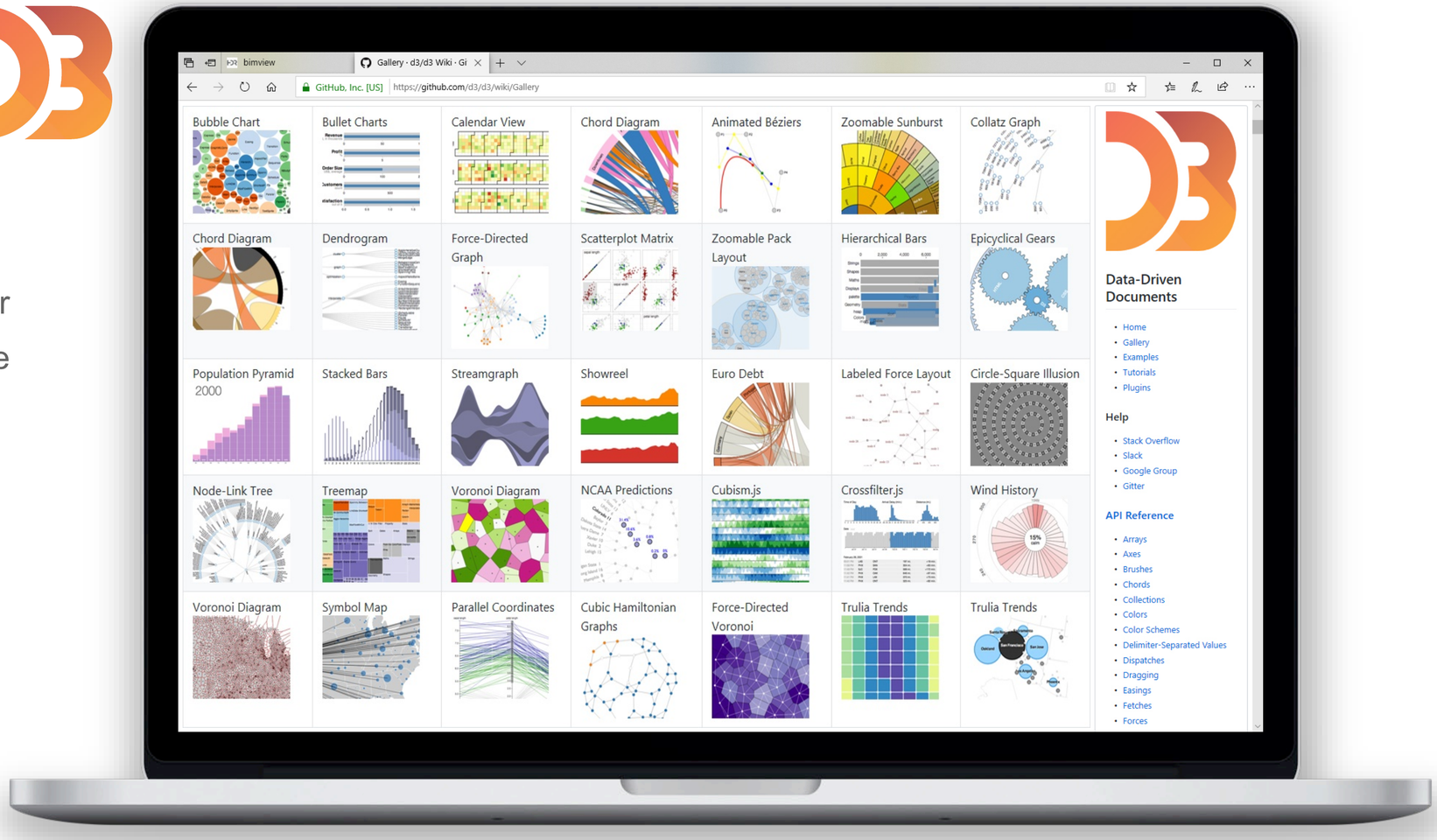


D3 – DATA-DRIVEN DOCUMENTS

D3.js makes use of Scalable Vector Graphics (SVG), HTML5 and Cascading Style Sheets (CSS) standards.

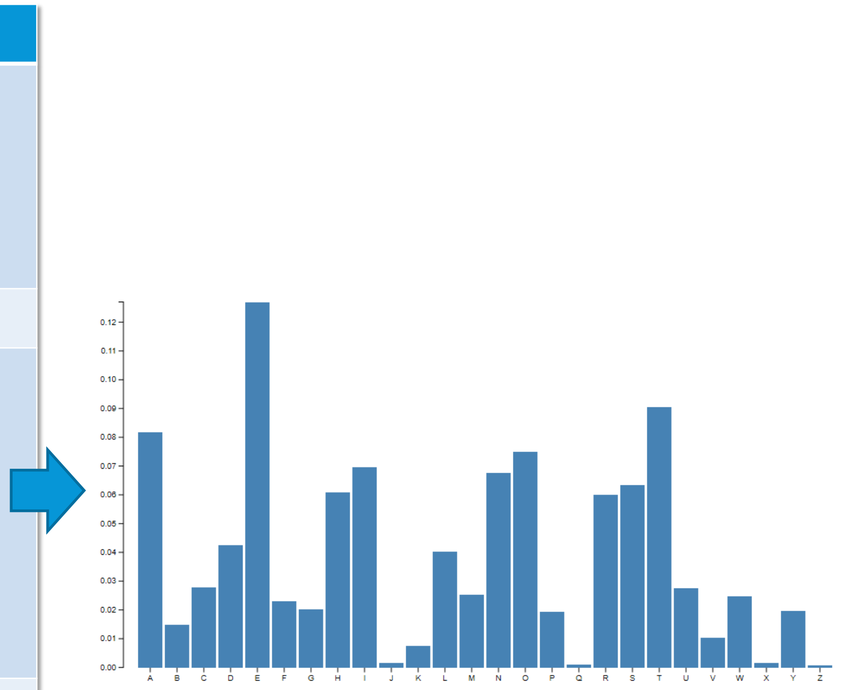
Examples:

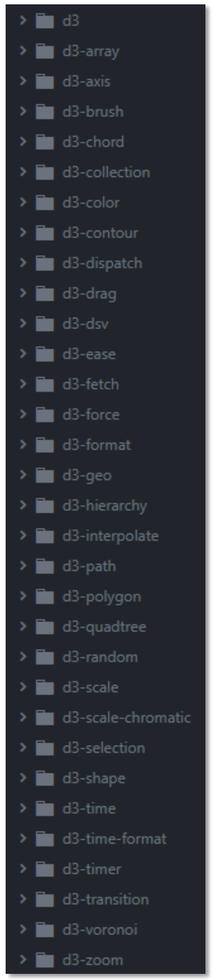
https://github.com/d3/d3/wiki/Gallery



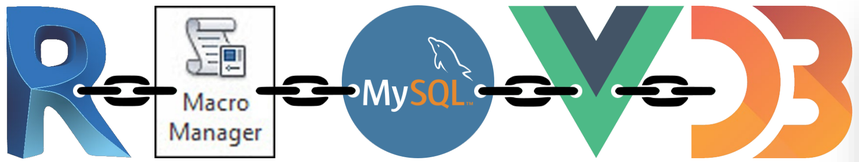
Visualising Data

Steps	Code
Create an SVG element in HTML	var svg = d3.select("body").append("svg") .attr("width", width + margin.left + margin.right) .attr("height", height + margin.top + margin.bottom) .append("g") .attr("transform", "translate(" + margin.left + "," + margin.top +)");
Load Data	d3.tsv("data.csv", type, function(error, myData) {
Set up XY Axes	x.domain(myData.map(function(d) { return ….; })); y.domain([0, d3.max(0, (myData,…)]); svg.append("g") .attr("class", "x axis") .attr("transform", "translate(0," + height + ")") .call(d3.svg.axis().scale(x).orient("bottom")); svg.append("g") .attr("class", "y axis") .call(d3.svg.axis().scale(y).orient("left"));
Iterate over data to build SVG Graphical Elements	svg.selectAll(".bar") .data(myData) .enter().append("rect") .attr("class", "bar") .attr("x", function(d) { return x(d.letter); }) .attr("width", x.rangeBand()) .attr("y", function(d) { return y(d.value); }) .attr("height", function(d) { return height - y(d.value); });



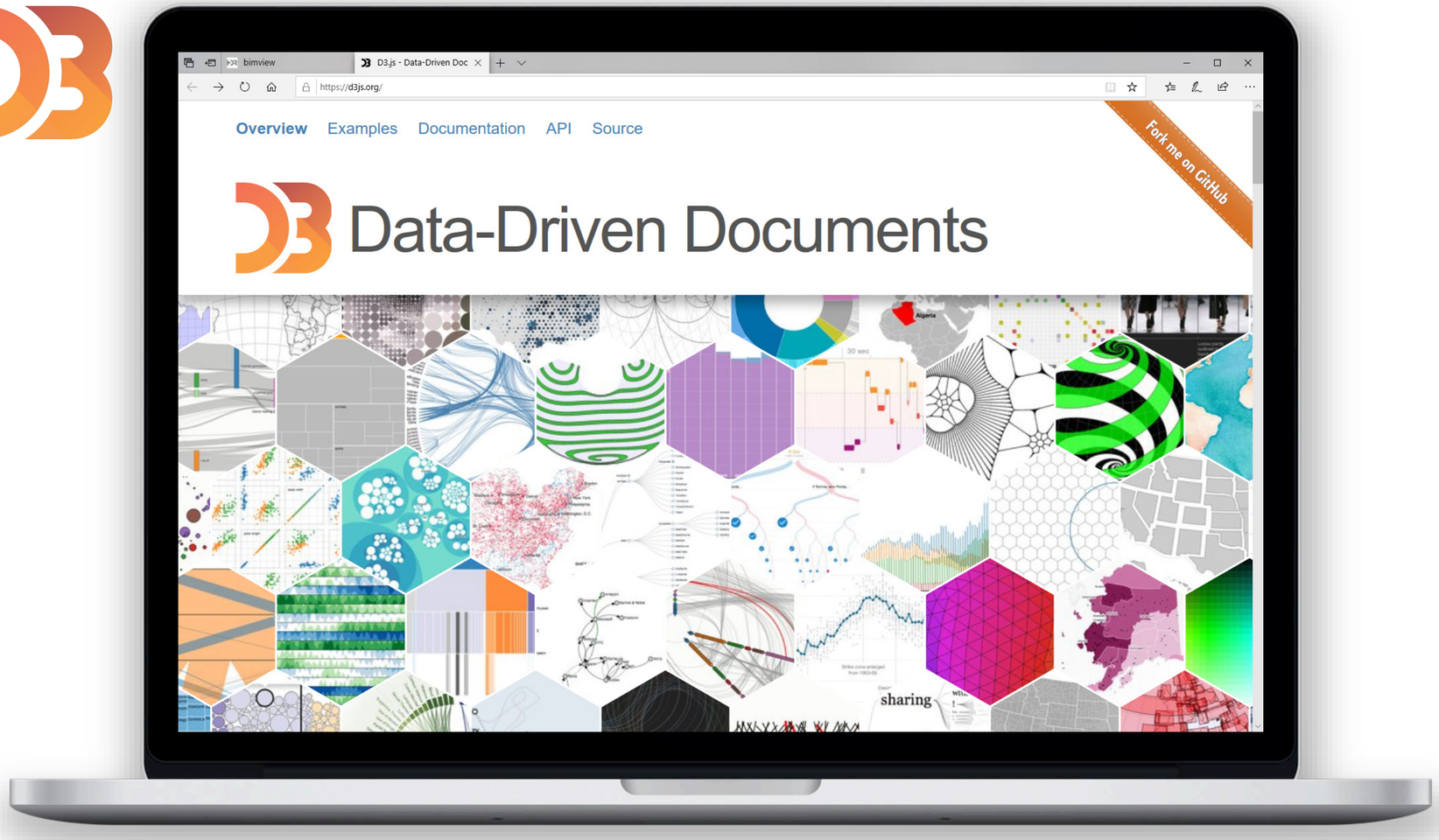


Visualising Data

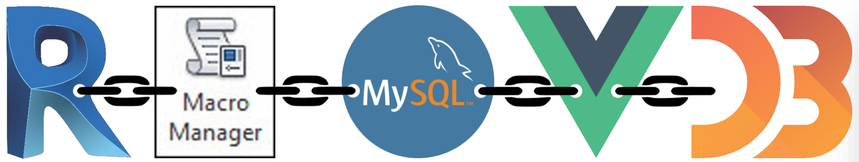


D3 – DATA-DRIVEN DOCUMENTS

- Transforms data into rich visuals
- Flexible and easy to understand
- No license costs

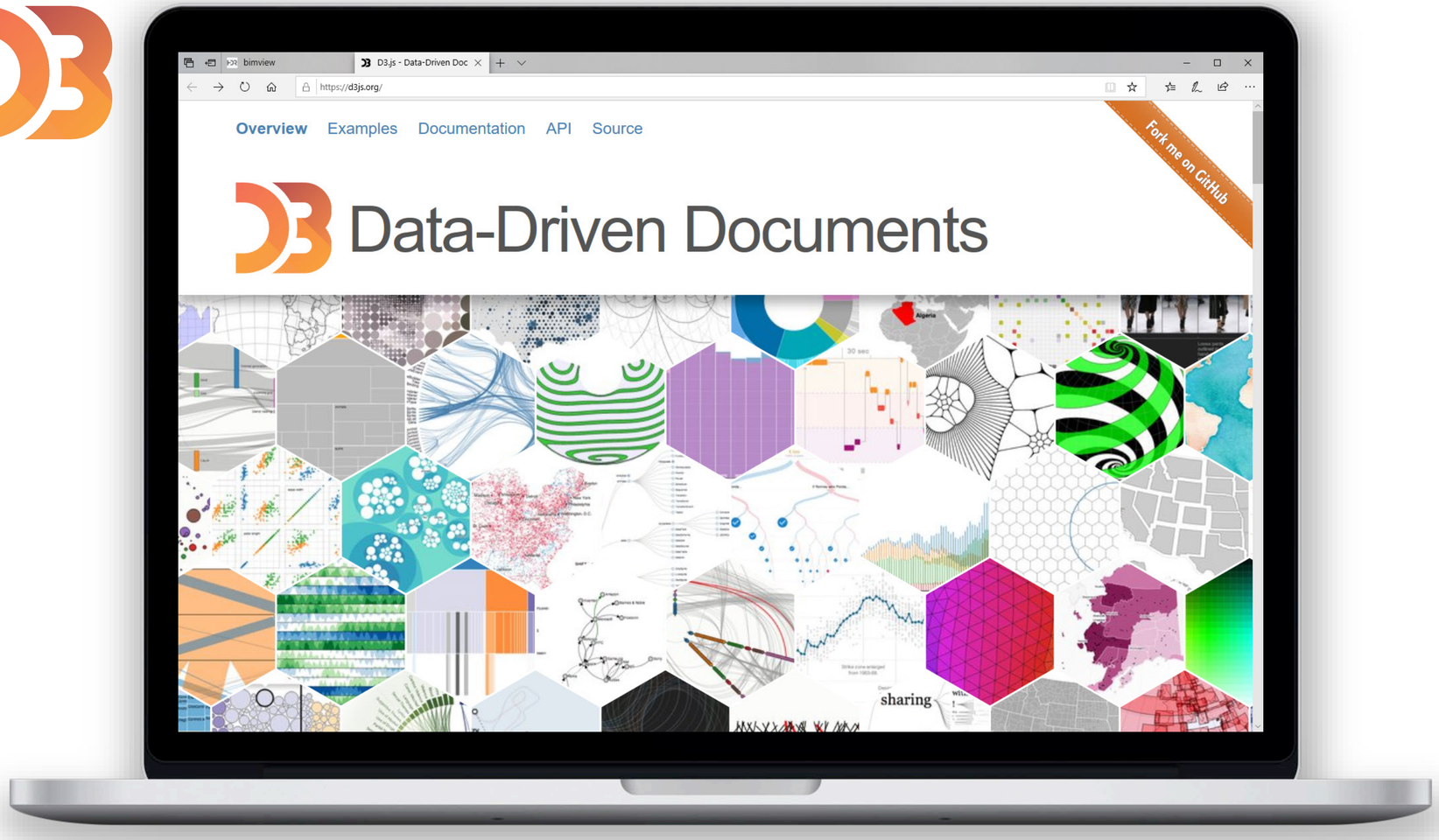


Visualising Data

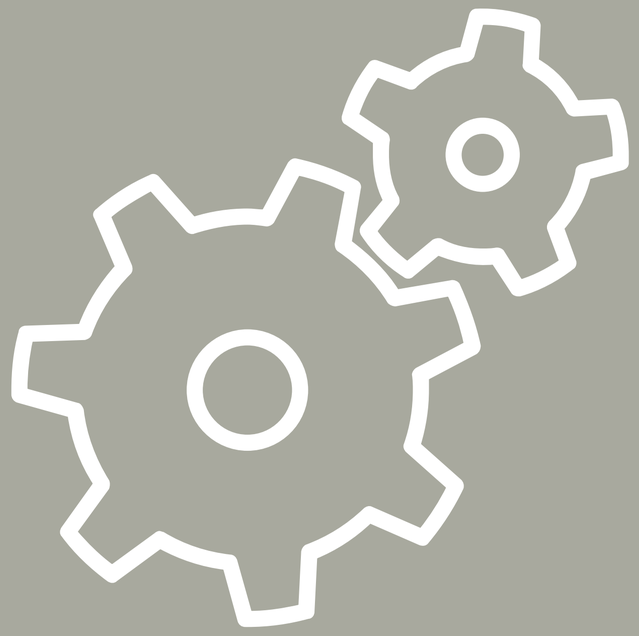


D3 – DATA-DRIVEN DOCUMENTS

- Data input 100% automated
- Accessible to everyone
- Allows comparability



Optimising



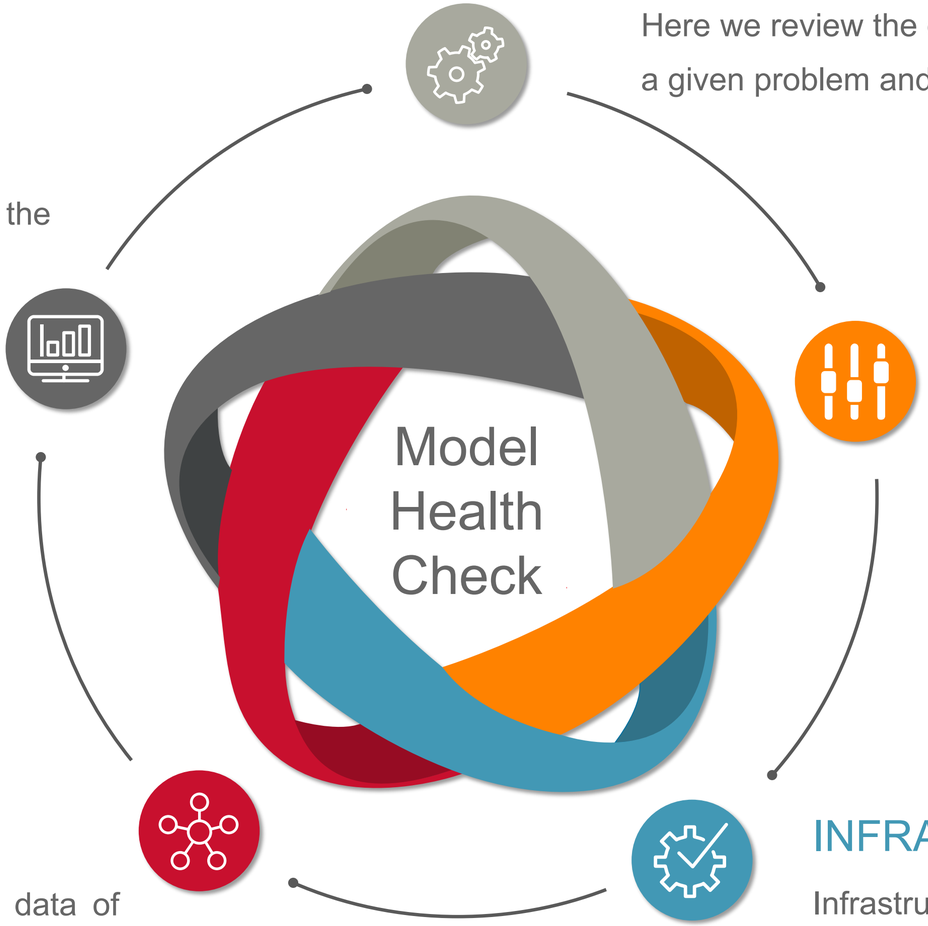
Step Five

OPTIMISING

Here we review the data that is being used based on a given problem and its rating system.

VISUALISING DATA

Visualising the data that will be used to measure the quality of your models.



DEFINING KPIS

Key Performance Indicators allow us to measure and discuss what we are trying to improve.

COLLECTING DATA

Integrating the structure and collecting the data of the individual models.

INFRASTRUCTURE

Infrastructure includes various pieces of software and is an upfront investment.

Optimising

PROACTIVE MODEL MANAGEMENT

- Projects with vs without a dedicated BIM Managers (Performance vs. Performance)
- Usage of non-approved and approved content (Approved Family Parameter)
- Improving model performance (Model Size and File Data)

Optimising

PROACTIVE SUPPORT AND TRAINING

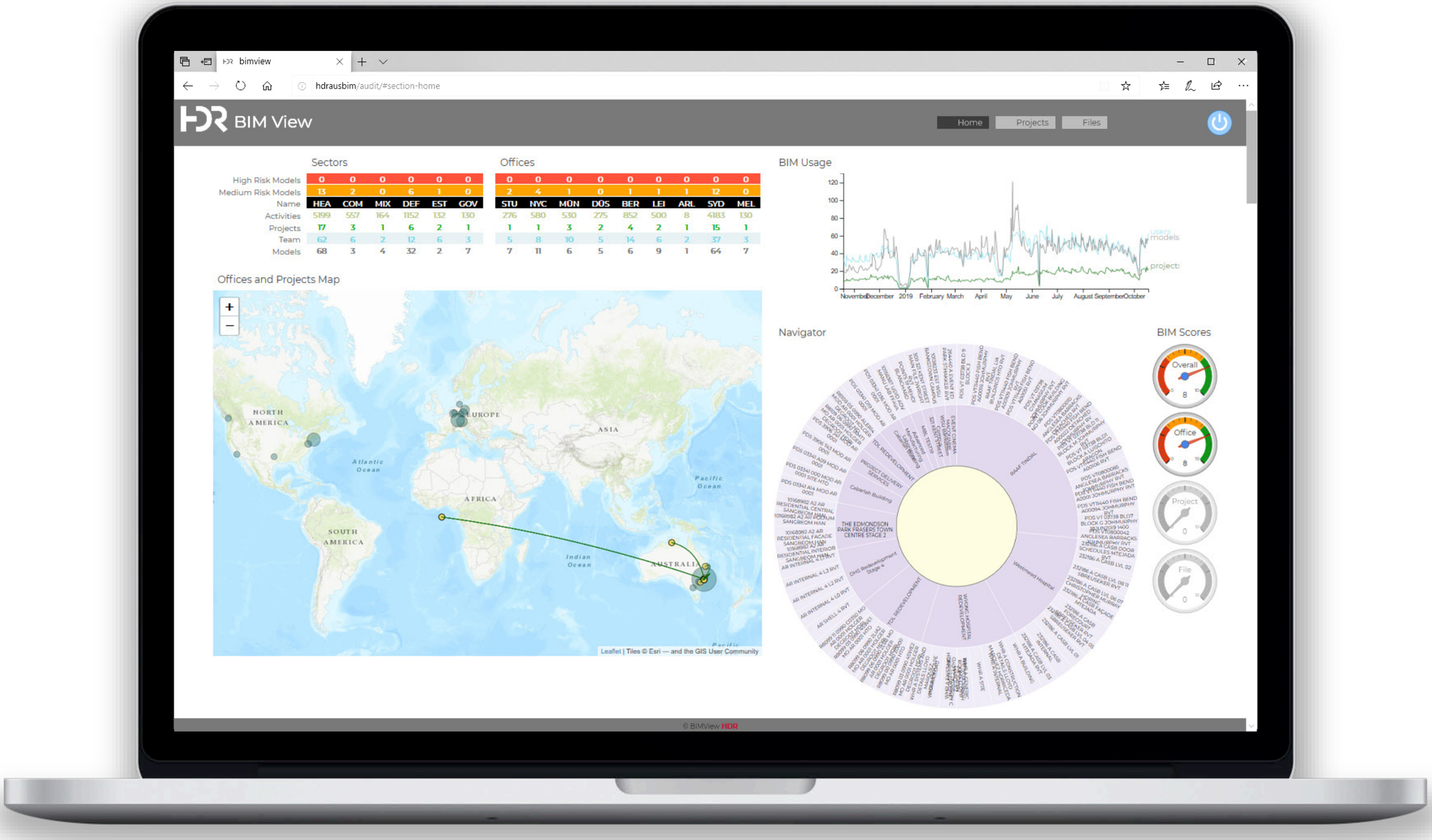
- Comparing teams in the same sector to find our champions (Mixing High and Low Achievers)
- Providing help before a support request is being launched (Monitoring and Controlling)
- Allowing users to see the impact of their own actions in real time (Model Rating 0 - 10 (red - green))

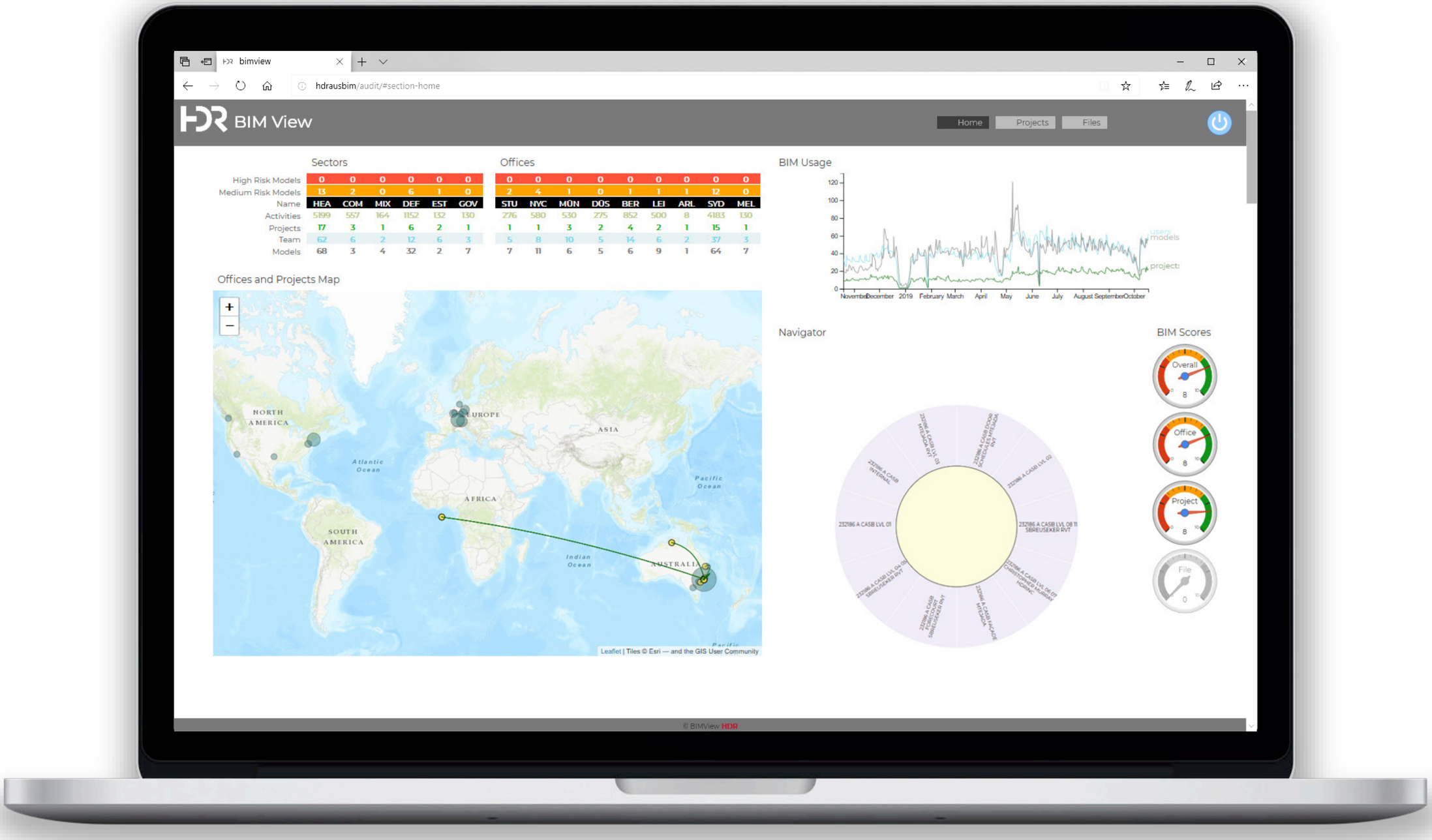
BIM View – Dashboard

High Risk Models	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Medium Risk Models	13	2	0	6	1	0	2	4	1	0	1	1	1	12	0		
Name	HEA	COM	MIX	DEF	EST	GOV	STU	NYC	MÜN	DÜS	BER	LEI	ARL	SYD	MEL		
Activities	5199	557	164	1152	132	130	276	580	530	275	852	500	8	4183	130		
Projects	17	3	1	6	2	1	1	1	3	2	4	2	1	15	1		
Team	62	6	2	12	6	3	5	8	10	5	14	6	2	37	3		
Models	68	3	4	32	2	7	7	11	6	5	6	9	1	64	7		

bimview
hdrausbim/audit/#section-home
BIM View
Home
Projects
Files
Sectors
Offices
BIM Usage
High Risk Models
Medium Risk Models
Name
Activities
Projects
Team
Models
HEA COM MIX DEF EST GOV
STU NYC MÜN DÜS BER LEI ARL SYD MEL
Offices and Projects Map
NORTH AMERICA
EUROPE
ASIA
AFRICA
SOUTH AMERICA
AUSTRALIA
Atlantic Ocean
Pacific Ocean
Indian Ocean
Leaflet | Tiles © Esri — and the GIS User Community
Navigator
BIM Scores
Overall
Office
Project
File
© BIMView HDR

bimview
hdrausbim/audit/#section-home
BIM View
Home
Projects
Files
Sectors
Offices
BIM Usage
Offices and Projects Map
Navigator
BIM Scores
Overall
Office
Project
File
© BIMView HDR


bimview
hdrausbim/audit/#section-home
BIM View
Home
Projects
Files
Sectors
Offices
BIM Usage
Offices and Projects Map
Navigator
BIM Scores
Overall
Office
Project
File
Leaflet | Tiles © Esri — and the GIS User Community
© BIMView HDR


bimview
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BIM View
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Offices and Projects Map
NORTH AMERICA
EUROPE
ASIA
AFRICA
SOUTH AMERICA
AUSTRALIA
Atlantic Ocean
Pacific Ocean
Indian Ocean
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Navigator
BIM Scores
Overall
Office
Project
File
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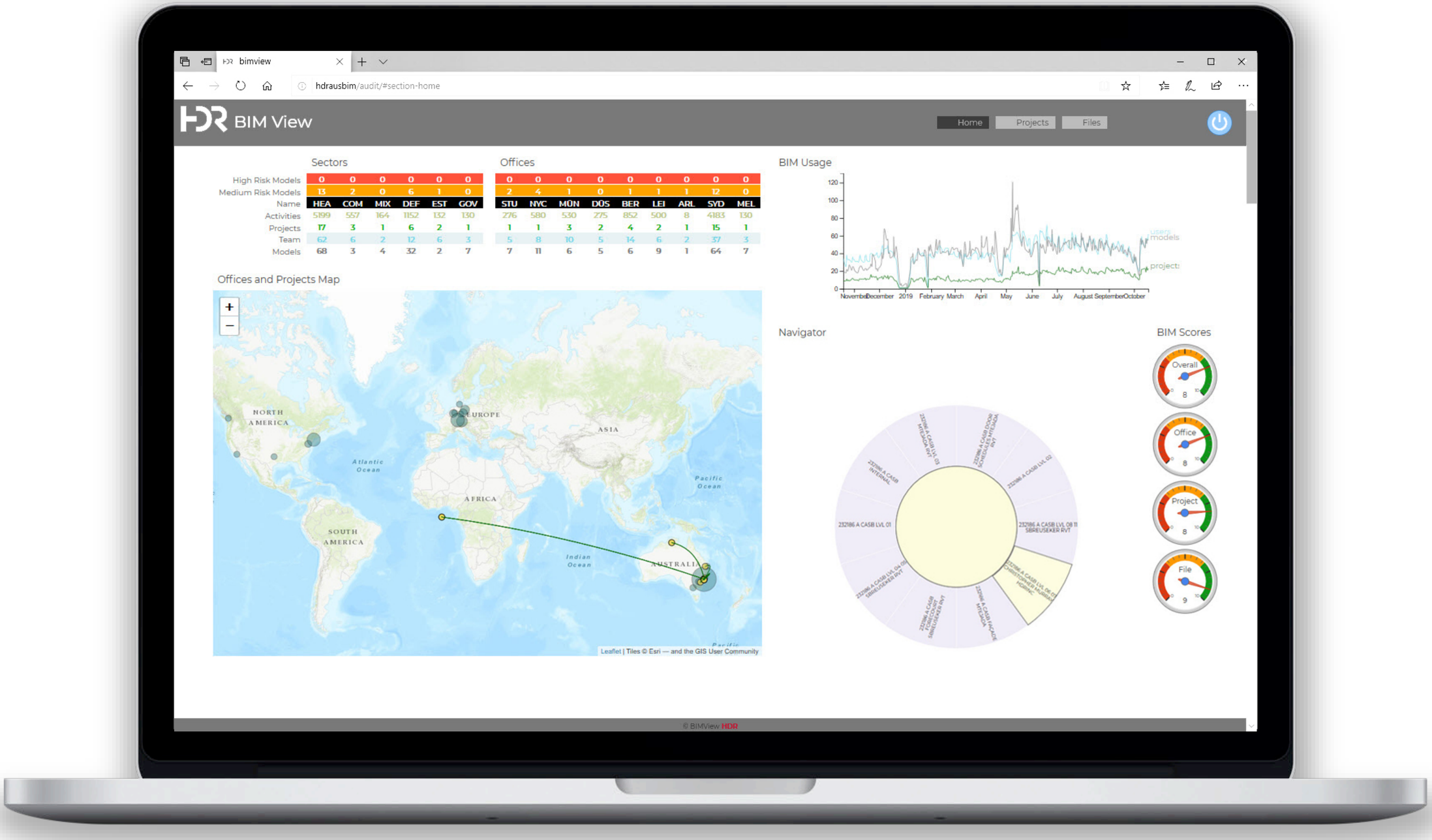
bimview
hdrausbim/audit/#section-home
BIM View
Home
Projects
Files
Sectors
Offices
BIM Usage
High Risk Models
Medium Risk Models
Name
Activities
Projects
Team
Models
HEA COM MIX DEF EST GOV
STU NYC MÜN DÜS BER LEI ARL SYD MEL
Offices and Projects Map
NORTH AMERICA
EUROPE
ASIA
AFRICA
SOUTH AMERICA
AUSTRALIA
Atlantic Ocean
Pacific Ocean
Indian Ocean
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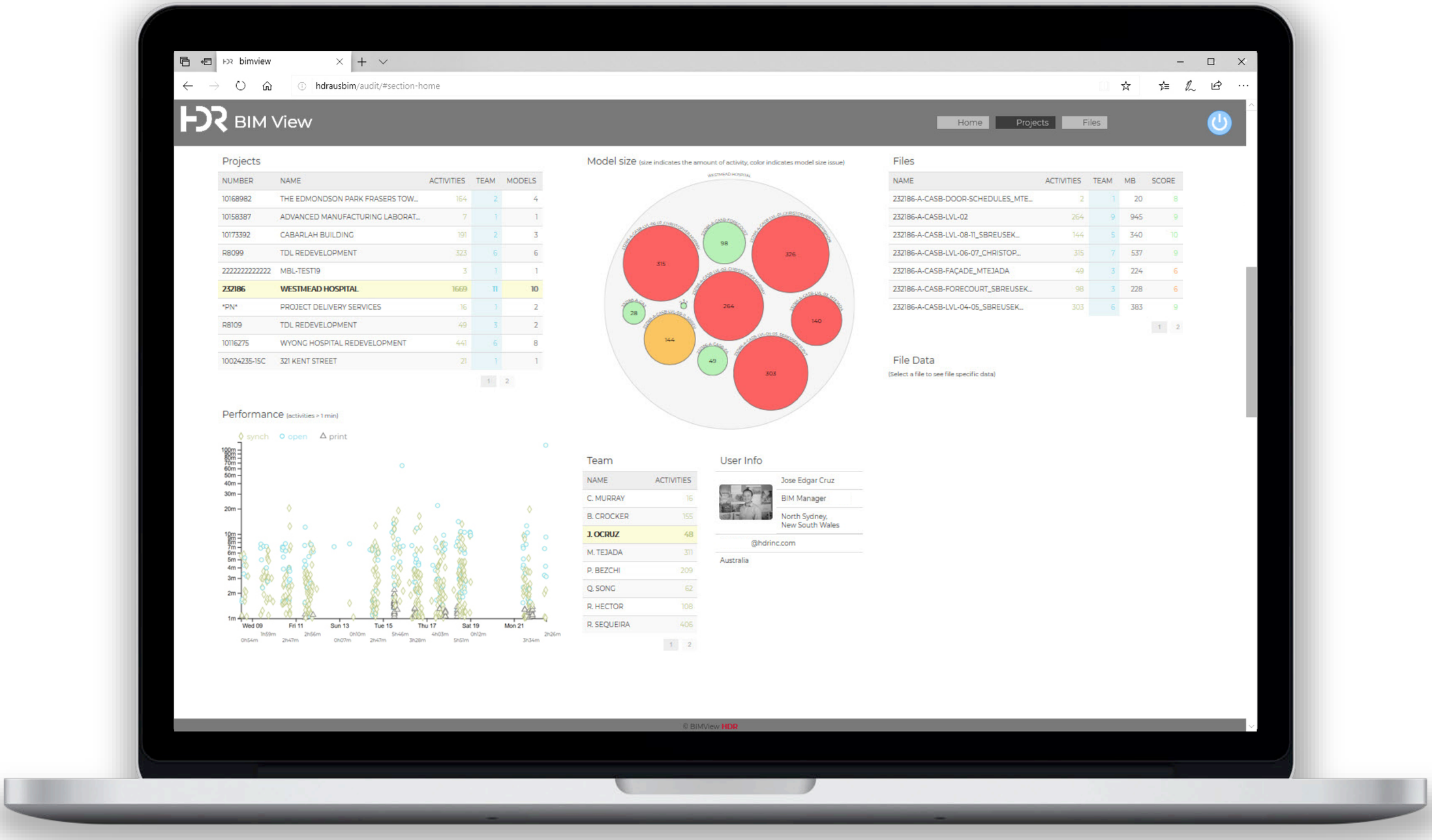
bimview
hdrausbim/audit/#section-home
BIM View
Home
Projects
Files
Projects
NUMBER NAME ACTIVITIES TEAM MODELS
10168982 THE EDMONDSON PARK FRASERS TOW... 164 2 4
10158387 ADVANCED MANUFACTURING LABORAT... 7 1 1
10173392 CABARLAH BUILDING 191 2 3
R8099 TDL REDEVELOPMENT 323 6 6
2222222222222 MBL-TEST19 3 1 1
232186 WESTMEAD HOSPITAL 1669 11 10
PN PROJECT DELIVERY SERVICES 16 1 2
R8109 TDL REDEVELOPMENT 49 3 2
10116275 WYONG HOSPITAL REDEVELOPMENT 441 6 8
10024235-15C 321 KENT STREET 21 1 1
1 2
Model size (size indicates the amount of activity, color indicates model size issue)
315
98
326
264
28
140
144
49
303
Files
NAME ACTIVITIES TEAM MB SCORE
232186-A-CASB-DOOR-SCHEDULES_MTE... 2 1 20 8
232186-A-CASB-LVL-02 264 9 945 9
232186-A-CASB-LVL-08-11_SBREUSEK... 144 5 340 10
232186-A-CASB-LVL-06-07_CHRISTOP... 315 7 537 9
232186-A-CASB-FAÇADE_MTEJADA 49 3 224 6
232186-A-CASB-FORECOURT_SBREUSEK... 98 3 228 6
232186-A-CASB-LVL-04-05_SBREUSEK... 303 6 383 9
1 2
File Data
(Select a file to see file specific data)
Performance (activities > 1 min)
synch
open
print
100m
90m
80m
70m
60m
50m
40m
30m
20m
10m
9m
8m
7m
6m
5m
4m
3m
2m
1m
Wed 09
Fri 11
Sun 13
Tue 15
Thu 17
Sat 19
Mon 21
Team
NAME ACTIVITIES
C. MURRAY 16
B. CROCKER 155
J. OCRUZ 48
M. TEJADA 311
P. BEZCHI 209
Q. SONG 62
R. HECTOR 108
R. SEQUEIRA 406
1 2
User Info
Jose Edgar Cruz
BIM Manager
North Sydney, New South Wales
@hdrinc.com
Australia
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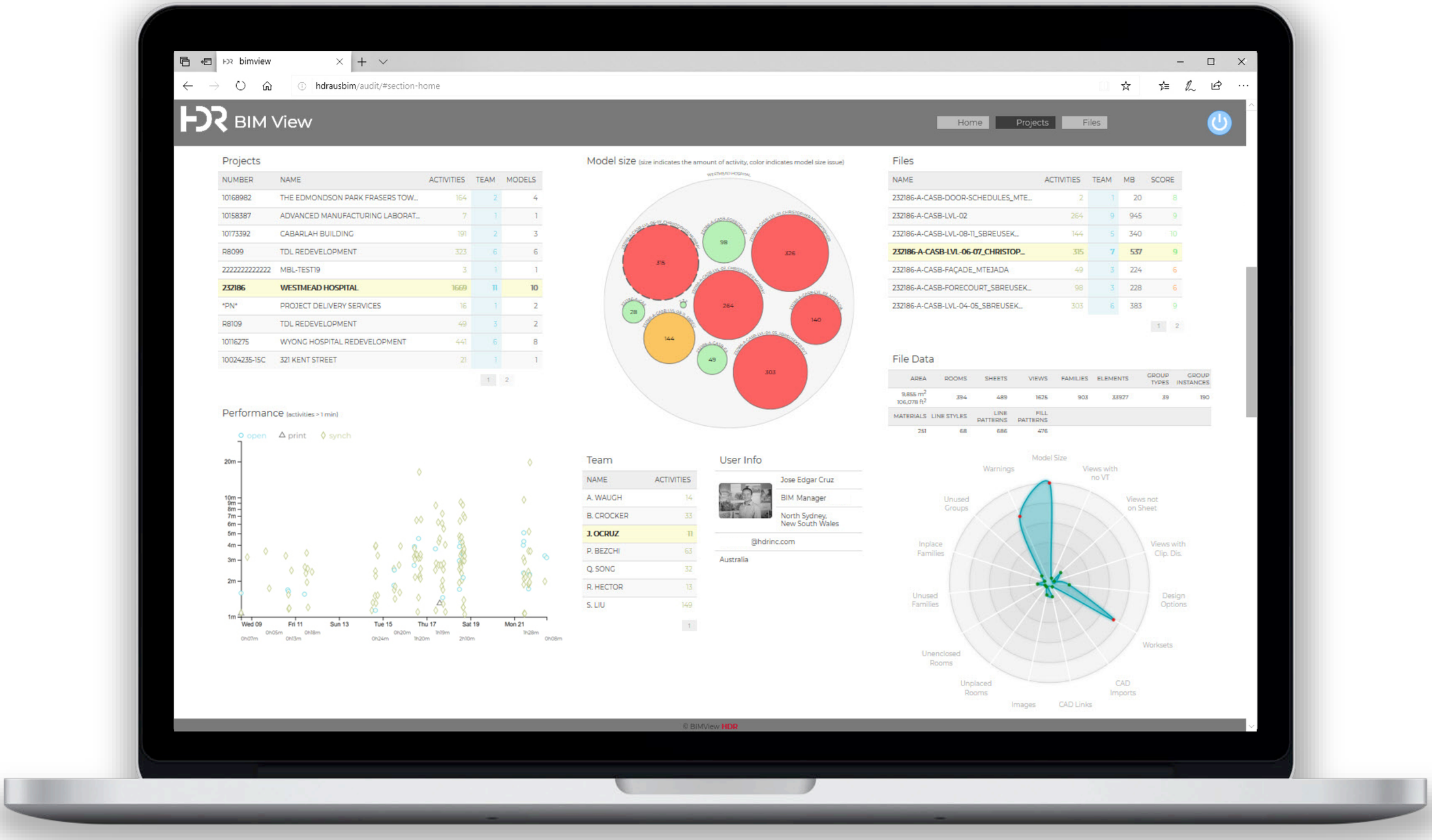
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R8099 TDL REDEVELOPMENT 323 6 6
2222222222222 MBL-TEST19 3 1 1
232186 WESTMEAD HOSPITAL 1669 11 10
PN PROJECT DELIVERY SERVICES 16 1 2
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10116275 WYONG HOSPITAL REDEVELOPMENT 441 6 8
10024235-15C 321 KENT STREET 21 1 1
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232186-A-CASB-LVL-08-11_SBREUSEK... 144 5 340 10
232186-A-CASB-LVL-06-07_CHRISTOP... 315 7 537 9
232186-A-CASB-FAÇADE_MTEJADA 49 3 224 6
232186-A-CASB-FORECOURT_SBREUSEK... 98 3 228 6
232186-A-CASB-LVL-04-05_SBREUSEK... 303 6 383 9
File Data
AREA ROOMS SHEETS VIEWS FAMILIES ELEMENTS GROUP TYPES GROUP INSTANCES
9,855 m² 106,078 ft² 394 489 1625 903 33927 39 190
MATERIALS LINE STYLES LINE PATTERNS FILL PATTERNS
251 68 686 476
Performance (activities > 1 min)
open
print
synch
20m
10m
9m
8m
7m
6m
5m
4m
3m
2m
1m
Wed 09
Fri 11
Sun 13
Tue 15
Thu 17
Sat 19
Mon 21
Team
NAME ACTIVITIES
A. WAUGH 14
B. CROCKER 33
J. OCRUZ 11
P. BEZCHI 63
Q. SONG 32
R. HECTOR 13
S. LIU 149
User Info
Jose Edgar Cruz
BIM Manager
North Sydney, New South Wales
@hdrinc.com
Australia
Model Size
Warnings
Views with no VT
Views not on Sheet
Views with Clip. Dis.
Design Options
Worksets
CAD Imports
CAD Links
Images
Unplaced Rooms
Unenclosed Rooms
Unused Families
Inplace Families
Unused Groups
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BIM View
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Files
Files
NAME
ACTIVITIES
TEAM
MB
SCORE
232186-A-CASB-DOOR-SCHEDULES_MTE... 2 1 20 8
232186-A-CASB-LVL-02 282 9 985 9
232186-A-CASB-LVL-08-11_SBREUSEK... 148 5 337 10
232186-A-CASB-LVL-06-07_CHRISTOP... 380 8 534 9
232186-A-CASB-FAÇADE_MTEJADA 55 3 224 6
232186-A-CASB-FORECOURT_SBREUSEK... 94 3 231 6
232186-A-CASB-LVL-04-05_SBREUSEK... 289 6 389 9
232186-A-CASB-LVL-01 137 5 759 8
232186-A-CASB-INTERNAL 28 2 71 8
232186-A-CASB-LVL-03_MTEJADA.RVT... 137 4 894 9
Model Size
Avg Synch Time (min)
Warnings
Avg Opening Time (min)
2019
April
July
October
Contributors (new contributors are above the line, and previous contributors below)
01 Nov
01 Dec
01 Jan
01 Feb
01 Mar
01 Apr
01 May
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
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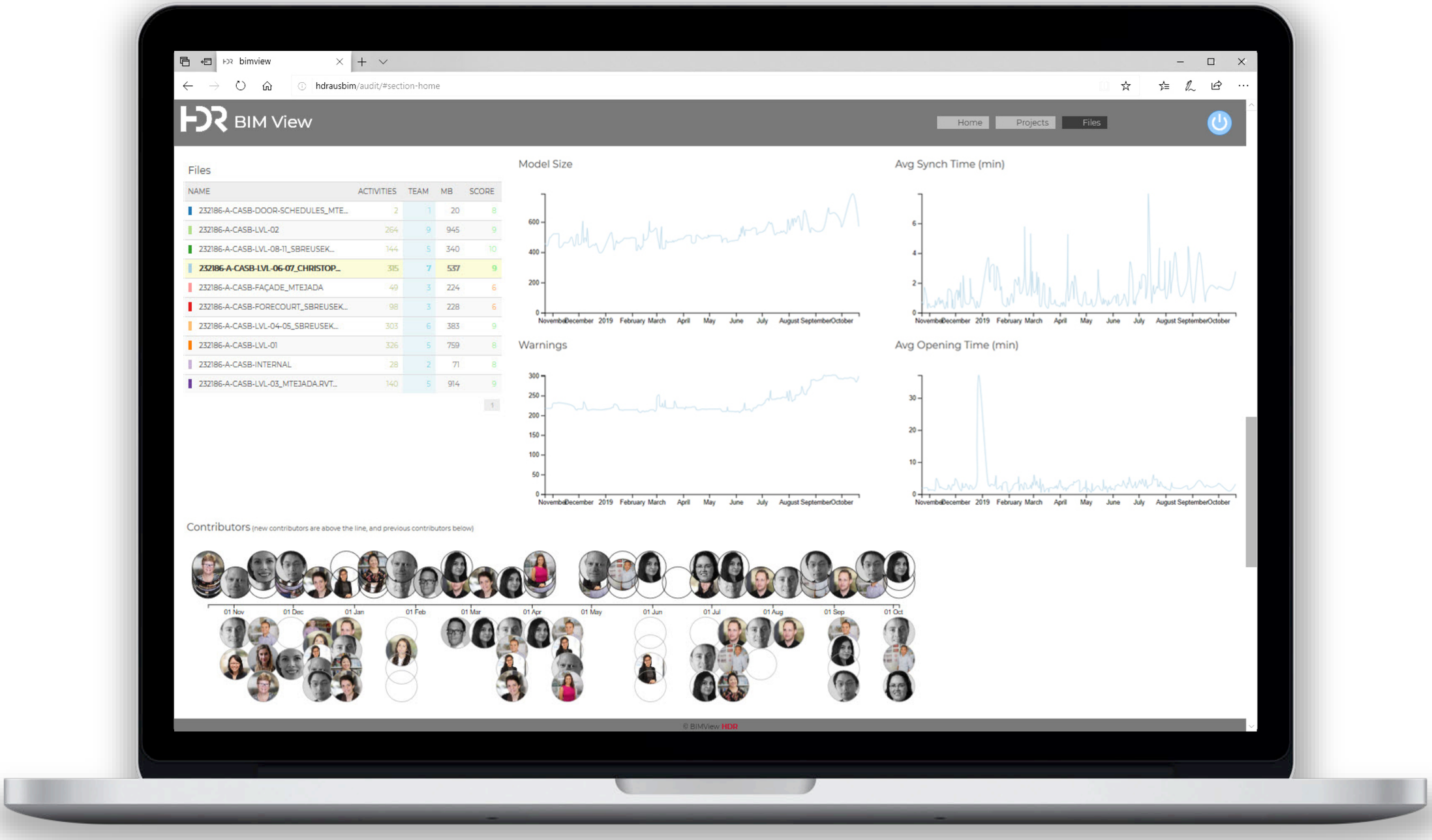
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232186-A-CASB-LVL-06-07_CHRISTOP...
232186-A-CASB-FAÇADE_MTEJADA
232186-A-CASB-FORECOURT_SBREUSEK...
232186-A-CASB-LVL-04-05_SBREUSEK...
232186-A-CASB-LVL-01
232186-A-CASB-INTERNAL
232186-A-CASB-LVL-03_MTEJADA.RVT...
Model Size
Avg Synch Time (min)
Warnings
Avg Opening Time (min)
November December 2019 February March April May June July August September October
Contributors (new contributors are above the line, and previous contributors below)
01 Nov
01 Dec
01 Jan
01 Feb
01 Mar
01 Apr
01 May
01 Jun
01 Jul
01 Aug
01 Sep
01 Oct
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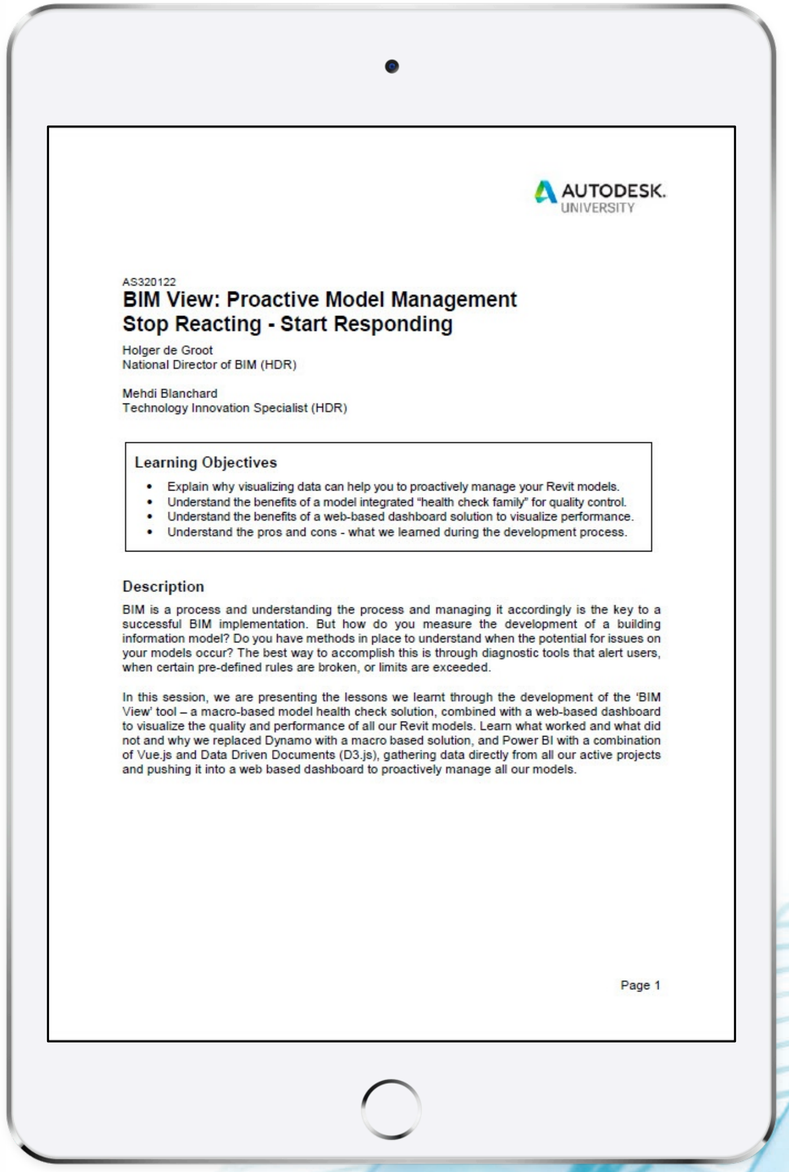
Lessons Learned

Lessons Learned

- As a team, model health shall be everyone's responsibility – a BIM Manager alone cannot fix it all.
- The model health dashboard has to be highly visible to the Revit Users, BIM Manager and Project Leader.
- BIM Managers shall always keep an eye on the model metrics so they know when help and support is needed.



Handout

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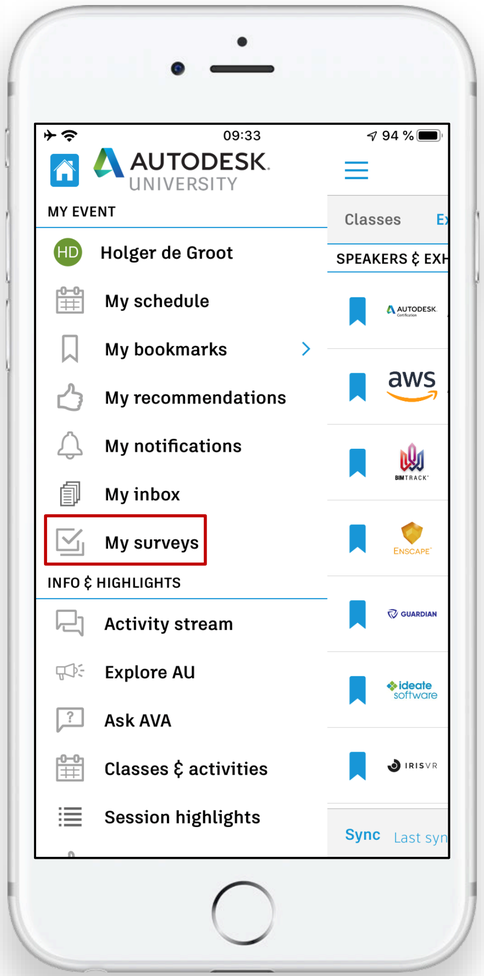
Save the Handout!



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