Dynamo + GitHub = DynaHub

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As the Technology Specialist at Willow, he develops and leads the creation of software applications and tools which benefit both the business and customers.

Andrea is also member of the committee of the Australian Dynamo User Group and speaker at the yearly Computational Design Workshop Conference held in Sydney.
DynaHub to increase productivity, confidence and usage
Lab’s Learning Objectives

• Discover the **value of adopting version control** in computational design;

• Learn how to **set up your version control strategy** with DynaHub: how to create and manage your GitHub account, and load your Dynamo graphs;

• Learn how to **commit and push your changes** to the Dynamo graphs: why, when, and how;

• Learn how to **manage and distribute Dynamo automations and packages** across your organization, and how to collaborate the easy way.
1. Why DynaHub?
2. What is Version Control? Git? GitHub?
3. Create a GitHub account + repository
4. GitHub basics for DynaHub
5. How to DynaHub
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WHY DYNAHUB?
What problem does DynaHub want to solve?

• The user: “Where do I find this script?”

• Also the user: Using a copied version of the graph, that has been updated by content creators;

• The manager: “Make sure you copy the script. Don’t use/change the original one, or I’ll have to kill you!”

• Everyone: “Script’s broken!” but it’s just the user doesn’t have the right packages;

• The programmer: “Oops changing this 3 weeks ago messed up the whole script, but I can’t CTRL+Z back there!”
Not to mention the “intangible” benefits

- Improved collaboration for teams
- Improved safety of graphs and confidence in beginners
- Improved Dynamo usability and easier approach
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WHAT IS VERSION CONTROL?

GIT?

GITHUB?
Version Control

- Management of changes;
- Documents, computer programs, web sites or other collections of information;
- Ledger where “slots”/revisions are associated with timestamp and user;
- Revisions can be compared, restored (roll back to previous working version) and merged;
- Tree structure > branching;
- Individuality: changes made to one branch remain in the specific branch;
- Facilitates collaboration of multiple contributors on same file simultaneously (usually different features in different branches).
Git & GitHub

• Git is the engine (the technology for VC);

• distributed version control system for tracking changes in source code during software development;

• its goals include speed, data integrity, support for distributed, non-linear workflows and better collaboration;

• GitHub is the web service (most common and utilised);

• It offers all of the SCM functionality of Git as well as adding its own features (bug tracking, feature requests, task management, and wikis);

• Organized in repositories (repos) that can be public or private.
Dynamo Extensions

• Dynamo creates programs /algorithms that will run inside of Dynamo’s canvas and will automate Revit actions;

• Dynamo Extensions are more like plugins for Dynamo. They allow you to create programs that give Dynamo itself new functionalities;

• Can now integrate Version Control functionalities within Dynamo without leaving it;

• Can be written through the Dynamo APIs. They are not the easiest to use yet...
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CREATE A GITHUB ACCOUNT + REPOSITORY
https://temp-mail.org/en/

I’ll be using a temporary disposable email during this session in order to create a safe test environment on GitHub
Hands On

1. Create a GitHub account
2. Create a new repo
3. Understand the repo
4. GitHub Desktop
Repo containing all Willow's Dynamo graphs for version control

- 44 commits
- 1 branch
- 0 releases
- 1 contributor

- Andrea Tassera and Andrea Tassera: Update TNSW_PushExcel.dyn
  - Last month
- Andrea Tassera: Update TNSW_Excel2.dyn
  - 5 months ago
- Andrea Tassera: Update TNSW_Excel3.dyn
  - 2 months ago
- Andrea Tassera: Update TNSW_Excel4.dyn
  - 21 days ago
- Andrea Tassera: Update MEPover.zip
  - 7 months ago
- Andrea Tassera: clean repo folder from tests
  - 2 months ago
- Andrea Tassera: added room data sheets scripts to testing folder
  - 3 months ago
- Andrea Tassera: Create repo's readme
  - 10 months ago

**packages**

**DynamoRepo**

Repo containing all Willow's Dynamo graphs for version control
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GITHUB BASICS FOR DYNAHUB
Hands On

1. Upload files to repo
2. Commit vs. Push
3. Fetch + Pull
4. Branching & Merging
5. Pull requests
6. Fork
Commands workflow

1. Add
2. Commit
3. Push
4. Fetch
5. Pull
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HOW TO DYNAHUB
Hands On

1. Install DynaHub
2. Login
3. Browse content
4. Open online-hosted graphs
5. Update Packages
6. Company utilization strategy
THANK YOU

AND HELP US GROW DYNAHUB!
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