

Dynamo + GitHub = DynaHub

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About the speaker

Andrea is an Architect and Engineer with extensive experience in computational design and in software development.

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



DynaHub

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.



Agenda

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

Dynamo + GitHub = DynaHub

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!"

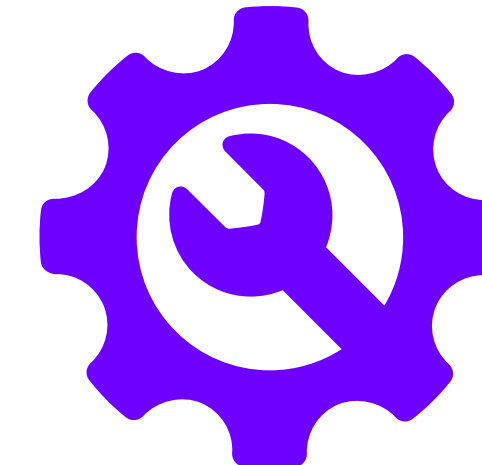
Not to mention the “intangible” benefits



Improved
collaboration
for teams



Improved **safety** of
graphs and **confidence**
in beginners



Improved **Dynamo**
usability and easier
approach

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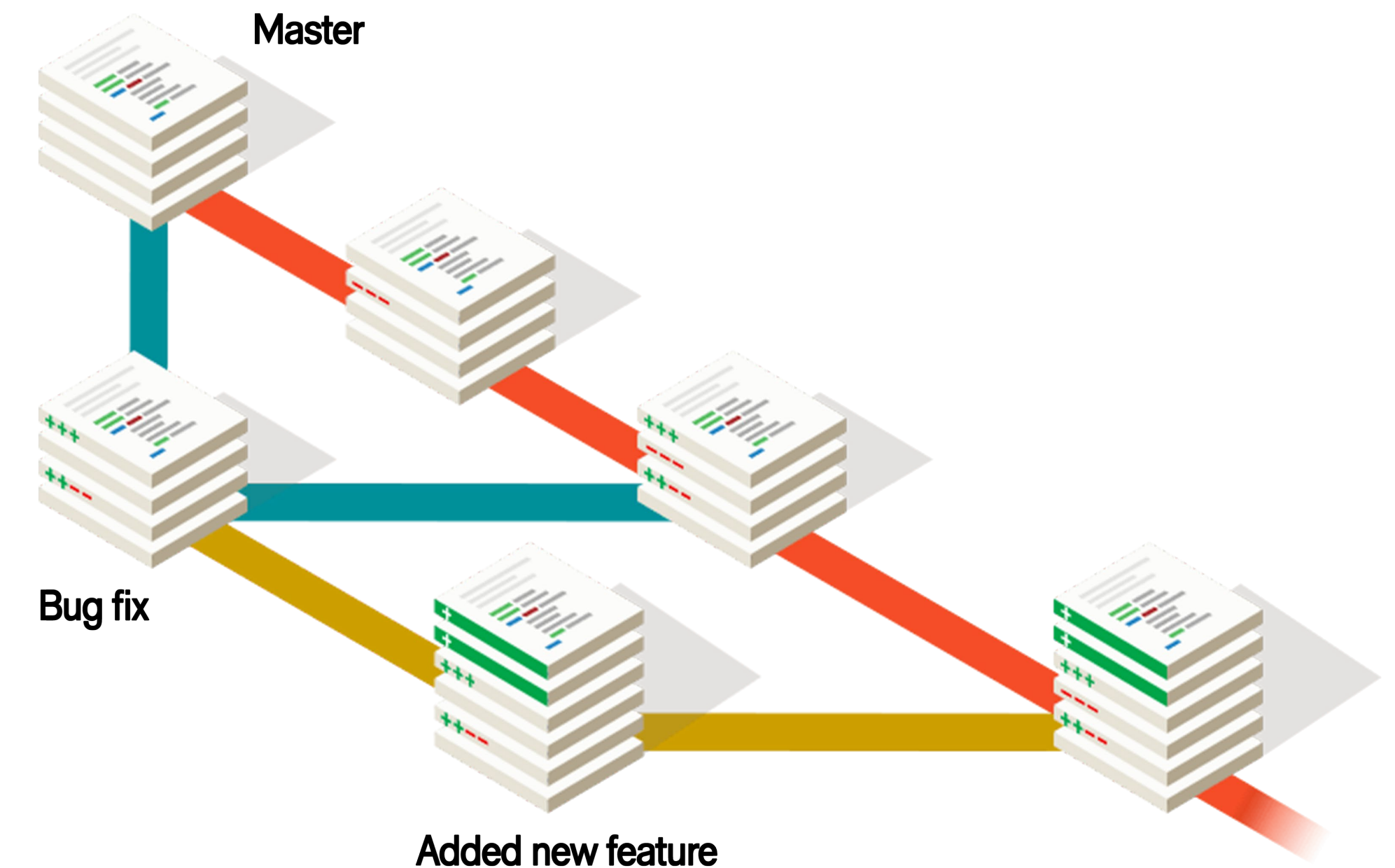
WHAT IS VERSION CONTROL?

GIT?

GITHUB?

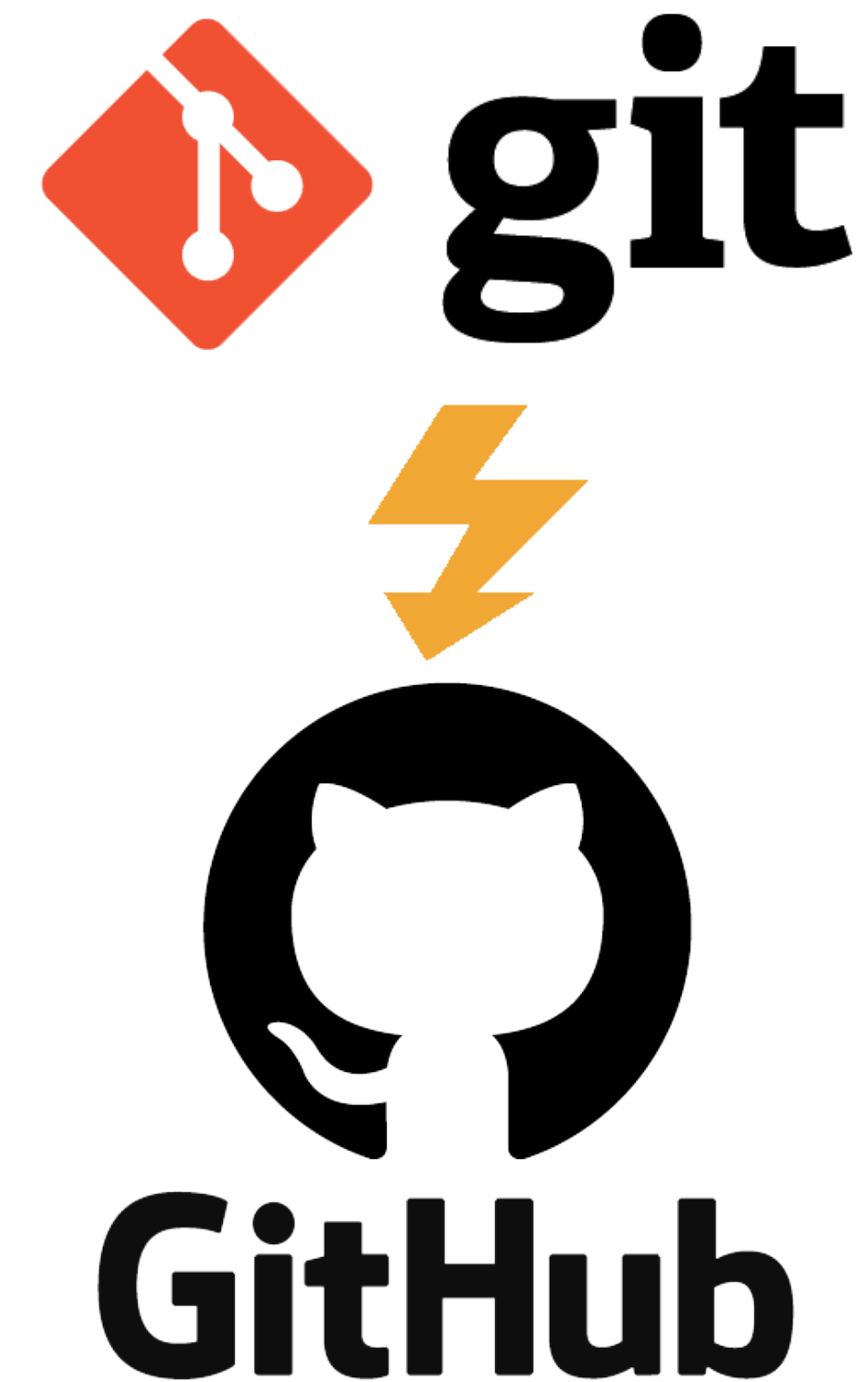
Version Control

- 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).



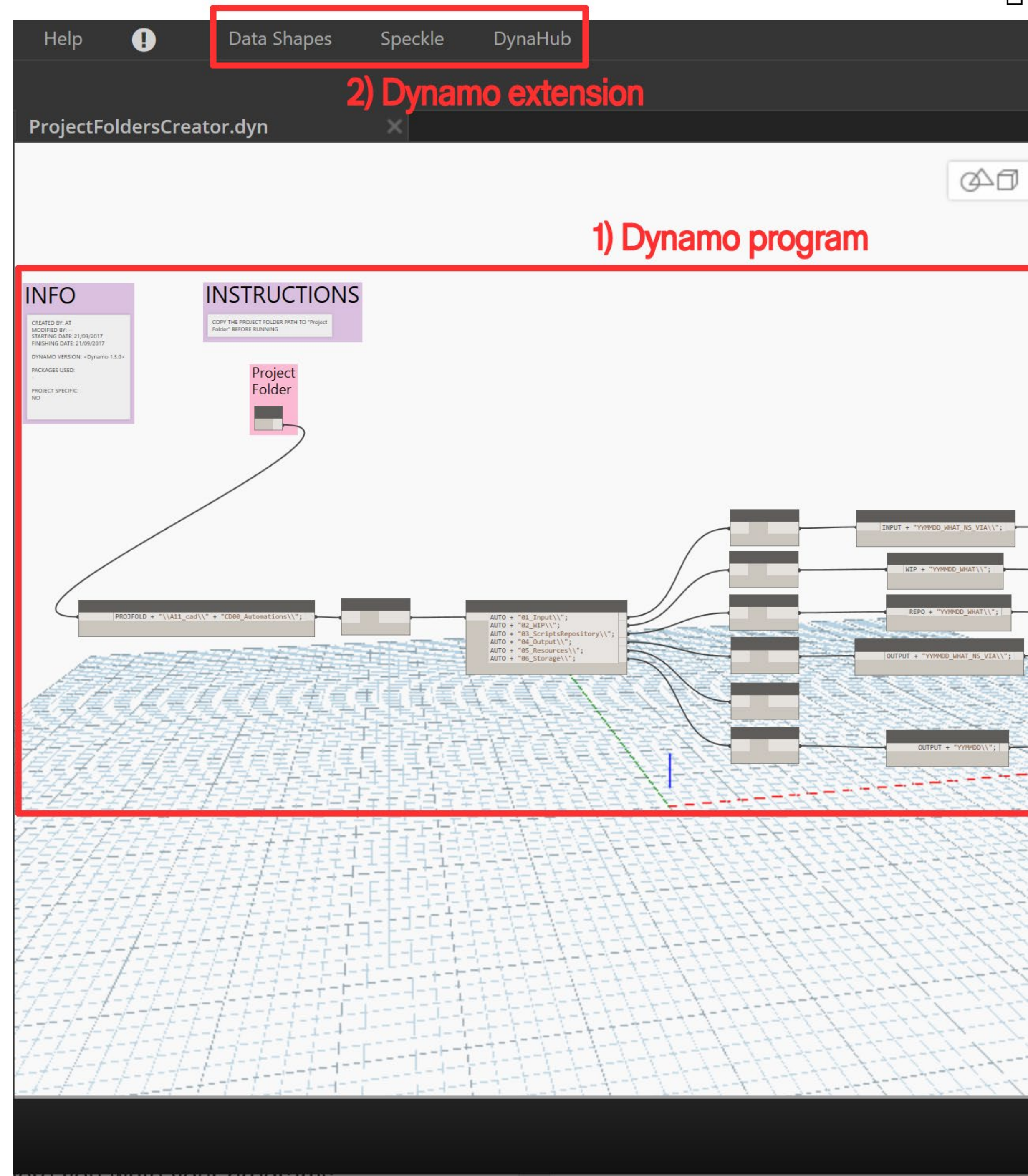
Git & GitHub

- **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

Dre-Tas / MyCoolDynamoRepo

Private

1

<> Code

! Issues 0

🔗 Pull requests 0

📁 Projects 0

🛡 Security

I will store here my Dynamo graphs so my awesome friends will be able to use them

Manage topics

2

🕒 1 commit

🌿 1 branch

Branch: master ▾

3New pull request

Dre-Tas

Initial commit

📄 README.md


Initial commit

📄 README.md

MyCoolDynamoRepo

I will store here my Dynamo graphs so my awesome friends will be able to use them

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Hands On

1. Create a GitHub account
2. Create a new repo
3. Understand the repo
4. GitHub Desktop

🔒 ridleyco / **DynamoRepo** Private

👁 Watch 1

★ Star 0

🍴 Fork 0

↔ Code

🔔 Issues 0

🔗 Pull requests 0

📁 Projects 0

📖 Wiki

🛡 Security

📊 Insights

⚙ Settings

Repo containing all Willow's Dynamo graphs for version control

Edit

Manage topics

🕒 44 commits

🌿 1 branch

🏷 0 releases

👤 1 contributor

Branch: master ▾

New pull request

Create new file

Upload files

Find file

Clone or download ▾

🔄

Andrea Tassera and Andrea Tassera Update TfNSW_PushExcel.dyn

Latest commit 3b90e44 21 days ago

📁 Project 1	uploaded CHM scripts	last month
📁 GeneralWorkflows	Update MEPover.zip MEPover.dyn .dyn	5 months ago
📁 Project 2	clean repo folder from tests	2 months ago
📁 Project 3	Update TfNSW_PushExcel.dyn	21 days ago
📁 packages	Update MEPOver.zip	7 months ago
📁 templates	clean repo folder from tests	2 months ago
📁 testing	added room data sheets scripts to testing folder	3 months ago
📄 README.md	Create repo's readme	10 months ago

📖 README.md

✎

DynamoRepo

Repo containing all Willow's Dynamo graphs for version control

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GITHUB BASICS FOR DYNAHUB

FileEditViewRepositoryBranchHelp

Current repository
MyCoolDynamoRepo

Current branch
master

Fetch
Latest

Changes 2

History

2 changed files

HelloUser.dyn

ProjectFoldersCreator.dyn

Summary (required)

Description

Commit to master

HelloUser.dyn

@@ -0,0 +1,209 @@

1+{

2+ "Uuid": "3c9d0464-864

3+ "IsCustomNode": false

4+ "Description": "",

5+ "Name": "HelloUser",

6+ "ElementResolver": {

7+ "ResolutionMap": {}

8+ },

9+ "Inputs": [],

10+ "Outputs": [],

11+ "Nodes": [

12+ {

13+ "ConcreteType": "

14+ "NodeType": "Code

15+ "Code": "\"Hello,

16+ "Id": "3f1d0f83a4

17+ "Inputs": [],

18+ "Outputs": [

19+ {

20+ "Id": "1e0fc2

21+ "Name": "",

22+ "Description"

23+ "UsingDefault

24+ "Level": 2,

25+ "UseLevels":

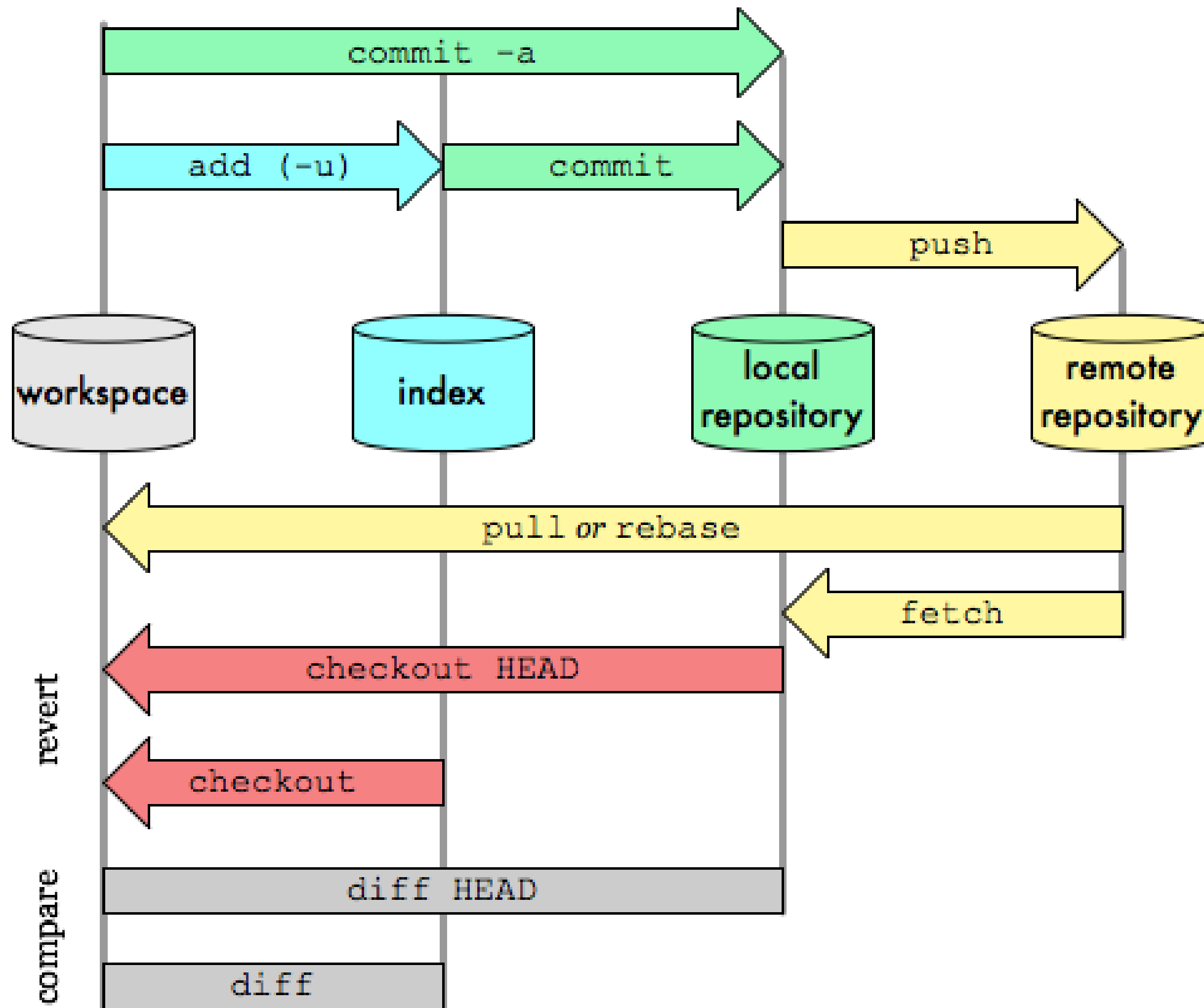
26+ "KeepListStru

Hands On

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

Git Data Transport Commands

<http://osteele.com>

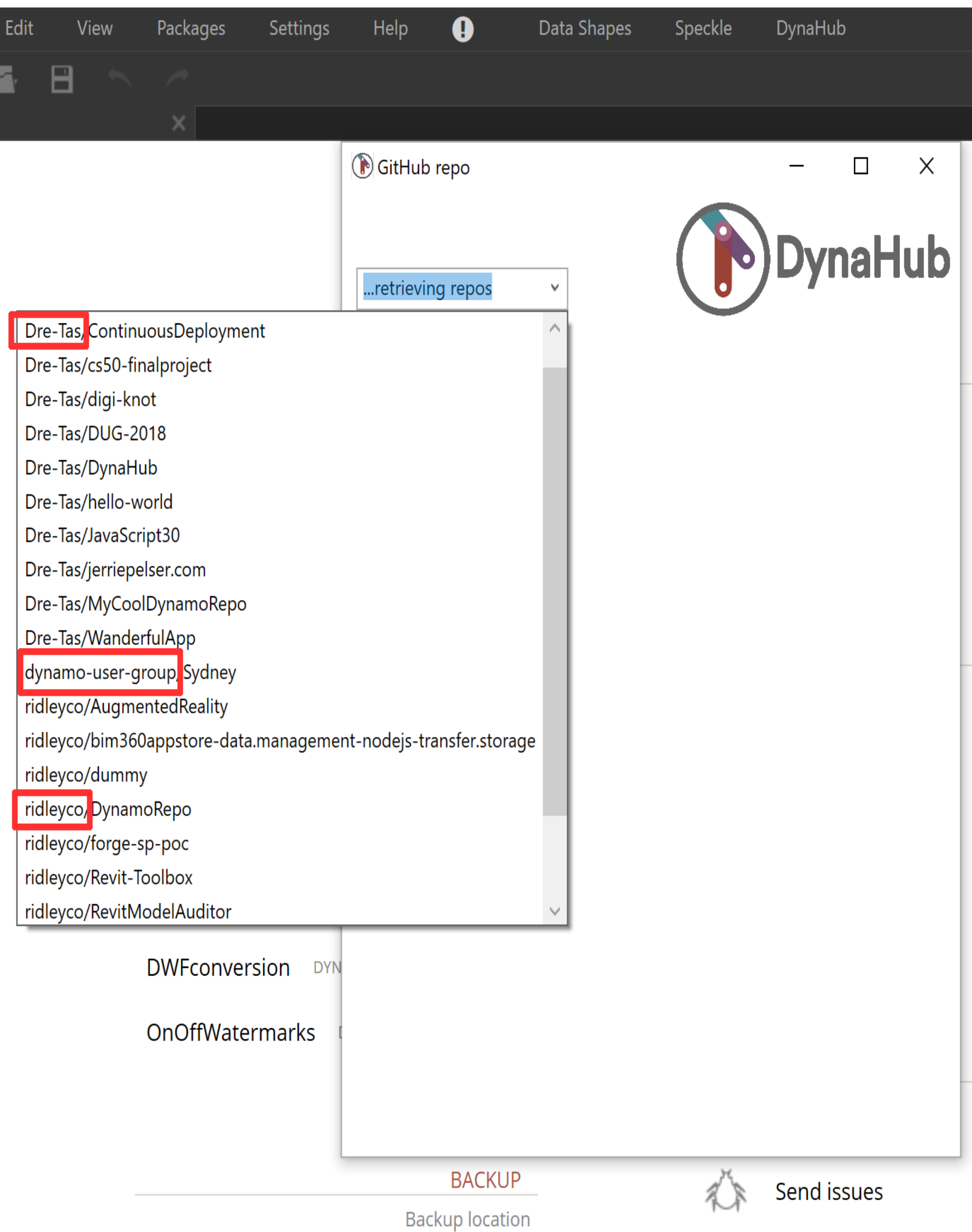


Commands workflow

1. Add
2. Commit
3. Push
4. Fetch
5. Pull

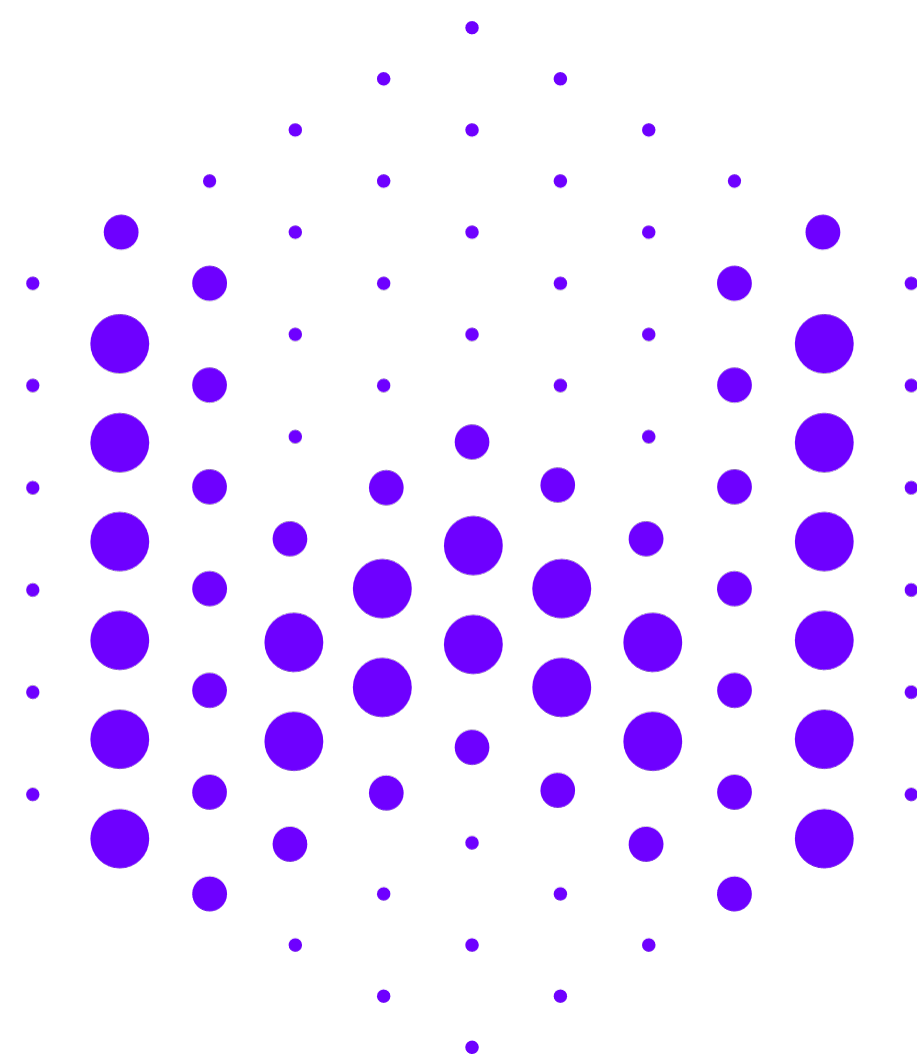
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HOW TO DYNAHUB



Hands On

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



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know your world

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THANK YOU

AND HELP US GROW DYNAHUB!



AUTODESK®

Make anything™

DYNAMO + GITHUB = DYNAHUB