

<ol style="list-style-type: none"> <li>1. A simplified diagram. Actually a lot more complex</li> <li>2. General workflow of research-based work.</li> <li>3. Most work now-a-days is being carried out with the use of computer software, such as ...</li> </ol>	<ol style="list-style-type: none"> <li>1. Experimental: DICOM/Image viewers, fsl tools, software to drive the big machines</li> <li>2. Data Analysis: Simple/complex libraries, from numpy, scipy to scikit-learn, tensorflow</li> <li>3. Simulators: Neuron, NEST, plenty more...</li> <li>4. Lots of hardware and software is required for basic neuroscience research.</li> </ol>
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<ol style="list-style-type: none"> <li>1. common tools used by people in science and research</li> </ol>	<ol style="list-style-type: none"> <li>1. simple definitions</li> </ol>
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<ol style="list-style-type: none"> <li>1. reproducibility crisis. unable to reproduce data, results</li> <li>2. benefits of open-sourcing code. helps community. reuse. build-on and improve. publication becomes an advert for the code.</li> </ol>	<ol style="list-style-type: none"> <li>1. Full of people from various fields</li> <li>2. Not all have the required XP</li> </ol>
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<ol style="list-style-type: none"> <li>1. The dev may not provide instructions on how to use the software</li> <li>2. Difficult for people who lack programming knowledge to build/use the tool directly from the dev.</li> <li>3. End users not always provide feedback</li> </ol>	<ol style="list-style-type: none"> <li>1. Given how interdisciplinary neuroscience is, most researchers are NOT trained in development</li> <li>2. based on anecdotal evidence, software used in research is not of the best quality</li> <li>3. may or may not meet development standards</li> <li>4. may have an instruction set on how to install/use the software</li> <li>5. resolving dependencies can be difficult</li> </ol>
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1. The other side of the bridge is the users
2. also suffer from resolving dependencies
3. lack the required skill/knowledge of programming, they have a hard time setting up and using the software
4. If correctness of a tool cannot be verified, how can the correctness of the scientific result be claimed?

1. role of distros:
2. liaison between the users and developers
3. provide feedback, report bugs to the dev
4. simplify installation/usage XP

1. high end servers, multiple mirrors across the globe
2. firm packaging guidelines; go through a heavy-duty review process; proper testing of the software before releasing to the general user
3. many contributors hail from different backgrounds, and have a lot to learn
4. provide help to the users