

Step 3: Research

Initial Due Date: Second Week

Final Due Date: Final Project Submission Date (actually, never stop learning)

As a developer, you need to be intimately familiar with the technologies you are or could be using. You need to understand the pros, cons, and requirements of each library and platform that is relevant to your project. Thus, you need to be up to date on technology and, since technology seems to be always changing, this will be something you need to do throughout your career.

Specifically, you need to

1. Know about the various platforms available to you: their options and limitations.
2. Know about the various libraries that you can use to make your work easier.
3. Actually download, install, and build sample 'Hello world' apps using the most promising technologies. It is not enough to just read about it, you **have to do it** in order to learn.
4. Then, learn how to use the specific GUI-, Widget-, Database-, Physics-, 3D-, whatever-library you choose to use for the project by building little programs.

Note that step 3 above can be distributed among the team members. Each one of you can be assigned to checkout a different technology, then you can discuss them.

For example, say you are contemplating building some sort of webapp for keeping track of data from scientific experiments. You would then need to:

1. Read tutorials about the various webapp frameworks: Ruby on Rails, Django, Google App Engine, Microsoft .NET, etc. Understand what they provide for you and what you will need to build yourself.
2. After you narrow it down to a couple of these you will then install these on your laptop and go thru their tutorials which show you how to build a simple app. Thus, you will build that app, then modify it a bit to make sure you understand how things work.
3. At this point you might realize that you will want/need some other libraries, say jQuery, or Jinja, or Backbone.js. Goto step 2 and repeat with those libraries.
4. Deploy your app. Make sure you can put it on the web where the whole world can see it.

Or, if you are thinking of building a mobile game:

1. Read tutorials about the mobile platforms: iPhone, Android, etc. Understand what they provide for you and what you will need to build.

2. Download, install, and build their sample 'Hello world' apps by following the Getting Started guides.
3. At this point you might realize that you will want/need to use some third part library, say Box2d for physics simulation, or an OpenGL library for 3D graphics. Goto step 2 and repeat with the chosen libraries.
4. Run the app on your mobile device.

The specific details will vary depending on your needs.

Deliverables

During our meetings I will be asking each of you questions about the technologies you are using. If, by March, you are not familiar with the basics of your tech, you will lose points for this Step.

I will be checking your personal log for evidence of your research.