

Information Packet for JAVA SIP

(July 29, 2015)

Greetings July 29th JAVA SIP Participants,

- We are looking forward to a very helpful JAVA/Android training session at Raritan Valley Community College on Wednesday Evening 6pm-8pm.
- Thanks again to RVCC for hosting this special JAVA/Android Training, as well as the 8-Track Workshops on August 8th. Thanks also to our great Wednesday evening volunteers.

The Schedule

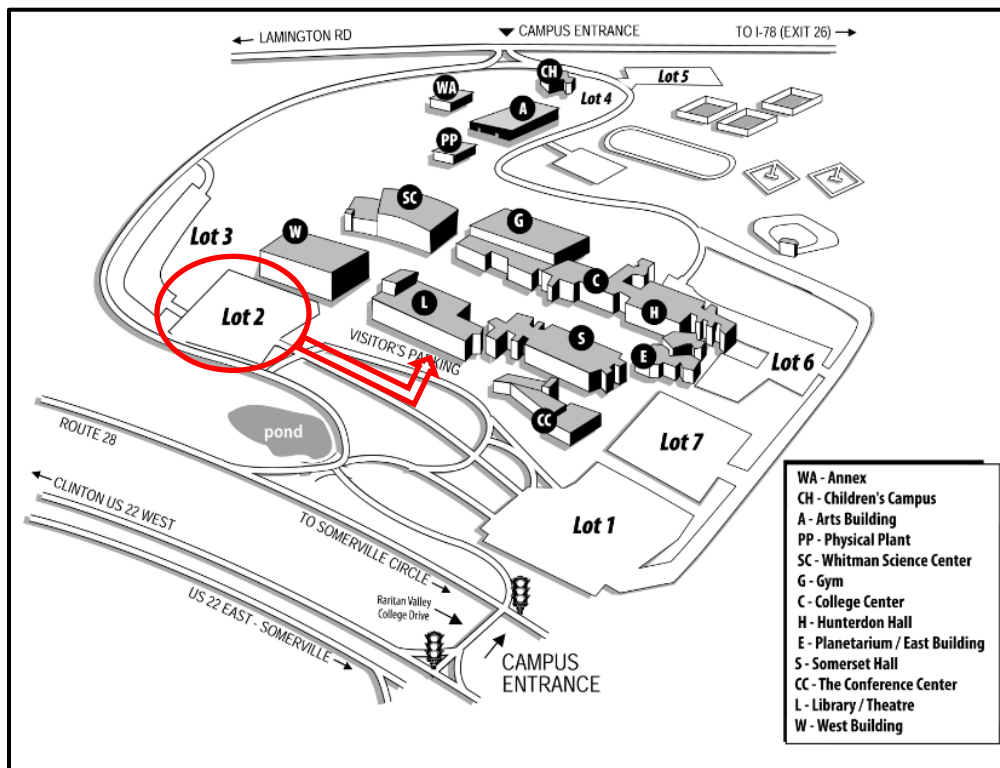
- The event is officially posted as 6pm – 8pm.
 - Some of us will be there a bit early. Come closer to 5:30 if you need extra set up help.
 - We will wind down at 8pm. Participants can stay a bit later than 8pm if really making progress and getting into their hands-on work. A hard stop at 8:30, though.

Address & Parking

- The address, for those using GPS, is....

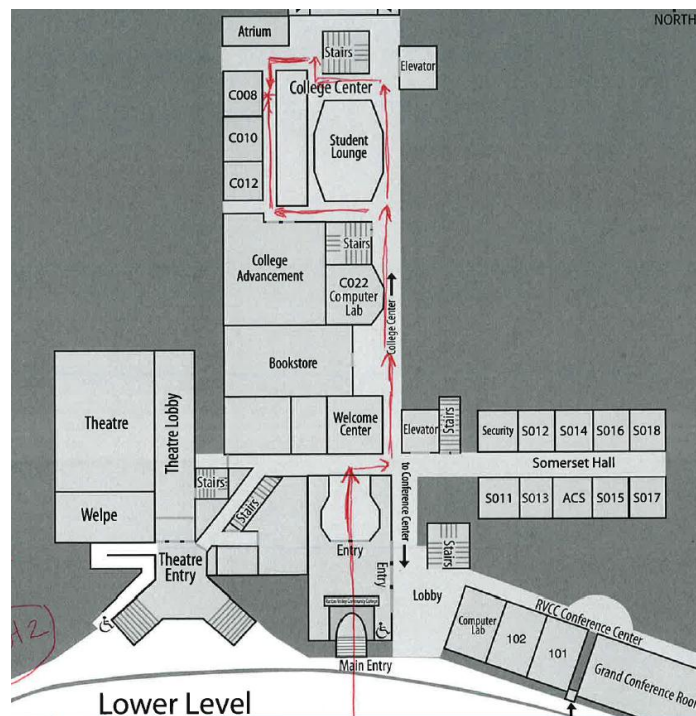
Raritan Valley Community College
118 Lamington Road
Branchburg, New Jersey
C008 in College Center reserved for the JAVA SIP

Please use Parking Lot #2



Parking and Building Entry

- Update –
 - RVCC has recommended that participants walk through the building to get to Room #C008. This may not be clear on the Campus Map but participants can actually walk through the Main Entry and internal hallway to get to the College Center's rooms.
 - See the internal building diagram that they have supplied to us, below.
 - RVCC suggests we utilize Lot #2 which can be seen to the lower left of the diagram below. Once parked in Lot #2, walk in front of the Theatre and over to the "Main Entry".
 - As you can see, you walk through the Lobby, down the College Center hallway, and around the "Student Lounge" to get to our Room #C008.
 - RVCC will put up some signs in the building for participants to follow.
 - Additionally, there is Security at the Welcome Center in the evenings to direct you, if struggling.



Parking Lot #2

The Materials We Have

- We have extension cords and utility strips
- We have (at least) two jersey-bot sized robots that have new electronics on them.
- We have software IF you are not able to load it ahead of time.
 - Footnote – We REALLY encourage loading software before coming. More on that below.
- We have a few extra laptops to loan (not many)
 - Footnote – We REALLY encourage you to bring your own laptop (with Admin rights) so that you can use it for the day, then take all of your good work and set-up progress home with you.

The Materials You Should Try to Bring

- Please bring a laptop on which you can program. (One per attendee is optimum.)
- Please bring your two Android (ZTE Speed) devices, if possible
- At least take a stab at preloading your items before coming. It will save major time.
 - Footnote – Information on pre-loading is given below. If you have real difficulties, email us during the week prior to the event and we'll try to help you through it.

The Basic Objectives

- Our instructors will check to assure that team laptop is really loaded and ready
- We will review the training materials from FIRST as soon as all (or most) are present and operational.
- Following a brief review of FIRST material, we will access the Inteliek site for additional training.
 - Footnote – Good to learn about this site. Additional information will be posted to it (e.g., App Inventor training materials) in the coming weeks.
- We'll cover how to configure your Android ZTE device as a "Robot Controller" and map it to a sample robot. You can even mount it on a jersey-bot and drive it!
- Teams can load/run some basic JAVA Programs that are available on line for drop-and-go use.
- Teams can then modify one of these basic JAVA Programs and test their modifications.

The Extra Objectives

- Participants can work on an Autonomous Program for our Exercises Sheet.
- Participants can troubleshoot a purposely flawed Program that we can provide.
- Participants can work on an Advanced Program (with a bit more Sensor activity).
- During the last 10-15 minutes of the session, App Inventor (Graphics Programming) will be shown.
 - Footnote – As mentioned above, the Training Materials for App Inventor are not yet available, hence the night really focus on Android Studio (i.e., the environment in which we will be doing our JAVA text-based programming.

Step-by-Step Set Up Instructions (courtesy of J McDonnell)

- **One of our FTA Instructors (John McDonnell of CT) has created the listing below. It is an abbreviated version of the information that is posted by FIRST on line. This focused instruction list may make it easier for you to set up your laptop.**
 1. Download "Java SE Development Kit 7u76" for your computer from <http://www.oracle.com/technetwork/java/javase/downloads/java-archive-downloads-javase7-521261.html#jdk-7u76-oth-JPR>
 2. Install the Java 7 SDK (you can just click Next -> Next -> Next, but if you're short on disk space, you can de-select the "Source Code" and "Public JRE" icons during the installation)
 3. Download the FTC SDK zip from https://github.com/ftctechnh/ftc_app/archive/master.zip
 4. Unzip the FTC SDK's master.zip file to a convenient directory.
 5. Download Android Studio from <https://developer.android.com/sdk/index.html>
 6. Install Android Studio (just click Next -> Next -> Next, but if you're short on disk space, you can uncheck the "Android Virtual Device" option on the "Choose Components" page.
 7. Run Android Studio (the last panel of the installation may have started Android Studio for you). The first time you run Android Studio, it will prompt for some configuration options, but the default settings do not need to be changed. If your network requires a proxy server in order to connect to the Internet (which may be the case in a school or corporate environment), you will need the host name and port number of the proxy server.
 8. At the "Welcome to Android Studio" screen, choose Configure -> SDK Manager.
 9. Click "Deselect All", then click the checkboxes to add these items (if you're short on disk space, you can omit the items with an asterisk):
 - Android SDK Build-tools, revision 21.1.2
 - SDK Platform Android 5.0.1 API 21, revision 2
 - Samples for SDK API 21, revision 4 *
 - Google APIs, Android API 21, revision 1
 - Sources for Android SDK, API 21, revision 1 *
 - Google USB Driver, revision 11 (not needed or selectable on Mac OS)
 - IMPORTANT: make sure you put a checkmark in the boxes for "API 21", not a higher or lower version. Android Studio may install other versions by default (which won't cause any problems), but it will NOT install the API 21 versions unless you put a checkmark in these boxes.
 10. Click Install and accept the license.
 11. Exit Android Studio, run it again and choose "Import project (Eclipse ADT, Gradle, etc)".
 12. Select the "build.gradle" file from the directory where you unzipped the FTC SDK.
 13. Android Studio will compile. When it's done, click the "Gradle Console" button on the bottom right and you should see a line at the end which says, "BUILD SUCCESSFUL".
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FIRST's Set-Up Guidance

- The Set-Up Instruction list (provided on the previous page) is consistent with that posted by FIRST at the link below.
- The advantage of the Step-by-Step listing is that it is a lot shorter and may be less intimidating for some than the 90+ page document.
- That said, the FIRST posting does have the advantage of many, many pictorials. It may be easier for some who are visual learners.

https://github.com/ftctechnh/ftc_app/raw/master/doc/tutorial/FTCTraining%20Manual%20v0_93.pdf

Other Useful Links

- If you'd like to take an advance look at some of the Intelitek information that we'll review on Sunday, check out the link below. (As noted previously, Intelitek is creating additional training materials so this is a great link to safely save somewhere.

<http://ftc.edu.intelitek.com/login/index.php>

Footnote - For full access to Intelitek courses you'll need to take a minute to create a new account for yourself on this web site. Each of the individual courses may also have a one-time "enrolment key", which you won't need until later. Here are the steps:

1. Fill out the [New Account](#) form with your details.
2. An email will be immediately sent to your email address.
3. Read your email, and click on the web link it contains.
4. Your account will be confirmed and you will be logged in.
5. Now, select the course you want to participate in.
6. If you are prompted for an "enrolment key" - use the one that your teacher has given you. This will "enrol" you in the course.
7. You can now access the full course. From now on you will only need to enter your personal username and password (in the form on this page) to log in and access any course you have enrolled in.

- Here is a link to the FTC forum, which also discusses set -up of laptop and Android devices.

<http://ftcforum.usfirst.org/showthread.php?4235-Community-generated-Phone-Setup-videos>

- You can also find some short youtube videos of possible interest here.

<https://www.youtube.com/watch?v=BuZiDPa8Rjk>

<https://www.youtube.com/watch?v=mxJ8-KZJW5w>