

collaborate

skillset

app

HOW TO

WORKFLOW

{ with youth }

event

goals

community

Create

build

innovation

developers



Ministry of Education



DataBC

```
<?php
/**
 * @file
 * Test case for testing the block example module.
 */
class BlockExampleTestCase extends DrupalWebTestCase {
  protected $web_user;
```

```
public static function getInfo() {
  return array(
    'name' => 'Block example functionality',
    'description' => 'Test the configuration options and block created by Block Example module.',
    'group' => 'Examples',
  );
}
```

```
/**
 * Enable modules and create user with specific permissions.
 */
function setUp() {
  parent::setUp('block_example', 'search');
  // Create user. Search content permission granted for the search block to
  // be shown.
  $this->web_user = $this->drupalCreateUser(array('administer blocks', 'search content', 'access contextual links'));
}
```

```
/**
 * Login user, create an example node, and test block functionality through
 * the admin and user interfaces.
 */
```

```
$this->drupalLogin($this->web_user);
```

```
function testBlockExampleBasic() {
  // Login the admin user.
```

```
// Find the blocks in the settings page.
$this->drupalGet('admin/structure/block');
$this->assertRaw(t('Example: configurable text string'), 'Block configurable-string.);
$this->assertRaw(t('Example: empty block'), 'Block empty-block found.);
```

```
// Verify the default settings for block are processed.
$this->assertFieldByName('blocks[block_example_example_empty][region]', 'sidebar_first', 'Empty block is enabled in first sidebar successfully verified.);
$this->assertFieldByName('blocks[block_example_example_configurable_text][region]', -1, 'Configurable text block is disabled in first sidebar successfully verified.);
```

```
// Verify that blocks are not shown
$this->drupalGet('/');
$this->assertNoRaw(t('Title of first block (example_configurable_text)'), 'Block configurable test not found.);
$this->assertNoRaw(t('Title of second block (example_empty)'), 'Block empty not found.);
```

```
// Enable the Configurable text block and verify
$this->drupalPost('admin/structure/block', array('blocks[block_example_example_configurable_text][region]' => 'sidebar_first', t('Save blocks')));
$this->assertFieldByName('blocks[block_example_example_configurable_text][region]', 'sidebar_first', 'Configurable text block is enabled in first sidebar successfully verified.);
```

```
// Verify that blocks are there. Empty block will not be shown, because it is empty
$this->drupalGet('/');
$this->assertRaw(t('Title of first block (example_configurable_text)'), 'Block configurable text found.);
```

```
// Change content of configurable text block
$string = $this->randomName();
$this->drupalPost('admin/structure/block/manage/block_example/example_configurable_text/configure', array('block_example_string' => $string), t('Save block));
```

```
// Verify that new content is shown
$this->drupalGet('/');
$this->assertRaw($string, 'Content of Frame of configurable text block successfully verified.);
```

```
// Make sure our example uppercased block is shown as altered by the
// hook_block_view_alter().
$this->assertRaw(t('UPPERCASE THIS PLEASE));
```

```
// Create a new block and make sure it gets uppercased.
$post = array(
  'title' => t('configurable block to be uppercased'),
  'info' => t('configurable block to be uppercased'),
  'body[value]' => t('body of new block'),
  'regions[bartik]' => 'sidebar_first',
);
```

```
$this->drupalPost('admin/structure/block/add', $post, t('Save block'));
$this->drupalGet('/');
$this->assertRaw('CONFIGURABLE BLOCK TO BE UPPERCASED);
```

```
$this->drupalPost('admin/structure/block/add', $post, t('Save block'));
$this->drupalGet('/');
$this->assertRaw('CONFIGURABLE BLOCK TO BE UPPERCASED);
```

```
// Verify that search block is at the bottom of the region
```

```
// Enable the search block on top of sidebar_first.
$block_options = array(
  'blocks[search_form][region]' => 'sidebar_first',
  'blocks[search_form][weight]' => -9,
);
```

```
$this->drupalPost('admin/structure/block', $block_options, t('Save blocks));
```

```
// The first 'configure block' link should be from our configurable block,
// the second from the Navigation menu, and the fifth (#4) from
// search block if it was successfully pushed to the bottom.
$this->drupalGet('/');
$this->clickLink('Configure block', 4);
$this->assertText(t('Search form'), hook_block_info_alter successfully verified.);
}
```

Help kids realize their full potential, raise data literacy and create unique solutions **4**

What do you Do? - Host a hackathon

B.C. Student Codeathon 2011

Host A Hackathon

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Help kids realize their full potential, raise data literacy and create unique solutions. What do you do? **Host a hackathon.**



scholarship opportunities and SkyTrain crime statistics. One of the students, Rahim, said:

“Eventually in the future, everything will be technology based, and coding is definitely one of the things, one of the most useful things a young person can know right now.”

Having great technology skills isn't the only way to be successful nowadays. Working with large amounts of data and making sense of it, is now becoming a critical skill. For this reason, various educational resources, like **BC's Digital Literacy Standards**, encourage educators to offer digital-literacy activities like hackathons.

Education and other public institutions have great reputations for facilitating youth activities by making young people feel comfortable. Now these young people are moving in a new direction. They are finding information or taking freely available, usable, open data sets, re-authoring, adapting and trying out coding variations to make products or objects from this selected data. This process is a growing part of the daily life and social fabric of our youth. It's an ideal way for students to become reusable content developers and producers – at an early age.

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0000001101000111101010110100101010101...

Hackathon

A marathon-like event of intensely focussed collaboration and coding to create a solution to a problem or produce something useful, a “hack”.

An Overview

Anyone can host a hackathon. It's easier than you'd think! To get the ball rolling, here are some suggestions that have worked well for coordinating youth-driven hackathons. Don't feel you have to execute everything – the goal is to host a hackathon in your area that gets kids involved.

Kids these days!

The countless hours kids spend web surfing, social networking, gaming and programming has helped them to develop sophisticated technology skills and become seriously tech-savvy. They're fearless – intuitively exploring and creating across various technology platforms. Our world is flooded with data and rich information, and learning to work with data and making sense of this information is becoming increasingly important for this generation of youth.

B.C. Student Codeathon 2011

In 2011, the Ministry of Education co-hosted British Columbia's first student codeathon (another name for a hackathon) with the British Columbia Principals' and Vice-Principals' Association (BCPVPA).

Students came to this event with a range of technology skills and applied their wisdom to projects on safe schools,

Host a hackathon

Youth-focused hackathons give experienced and novice techies an opportunity to channel their aptitudes into constructive skill-building scenarios by addressing real-world problems with technology, software applications and data. These are also social events where working together not only builds teamwork enthusiasm, but also some really cool solutions, and may even be the starting point of a potential business opportunity.

Educators and public librarians have begun to use hackathons to help students find raw data and transform it into usable information, often for a social purpose or to support a good cause. This type of group activity and active, hands-on learning allows students to try out their ideas, build prototypes and showcase their creations, often with the help of experts, specialists and mentors.

Here are a few examples of apps that show information in new ways:

- **SchoolZone** – a combination (or ‘mashup’) of public school location data and crash statistics that helps identify the safest route to school.
- **BC Municipal Debt Comparatron** – an app that uses open data to compare the change in taxes and debt per capita in B.C. municipalities.
- **Road Trip** – makes it easy to drop in and say “hi” to friends using **Google Maps** and data.

Homes for hackathons

Because they’re focused on learning and supported by technology, schools, libraries and other community-based locations make ideal environments for hackathons.

In his article, *“Facing the Future – A Vision Document for British Columbia’s Public Libraries”*, Ken Roberts notes:

“ There is a growing realization that physical libraries are becoming even more important community spaces, places where people gather, share and learn from each other.”

Ken Roberts, B.A., M.A., M.L.S

Winning hackathons

Essential ingredients for a winning hackathon include:

- Having young participants with technical skills (ranging from novice to expert).
- High energy levels and focused participation.
- Contributors with a capacity to use code to pull together data and create solutions.
- Having local young people with similar interests come together allows them to quickly get down to business
- Demonstrations of a wide range of digital tools, applications, products, prototypes or data visualizations.

Make it happen

Be a local champion and coordinate one of these high-energy, collaborative sessions. You’ll be amazed at the results.

Be supportive of these young people, youth who are in many cases better equipped technically than the rest of the population.

Starting with all the elements in this guide, an alternative to a major events would be to try a ‘hackathon light’ by hosting a community event with a small number of students, on-site staff and external mentors. Keeping the numbers small would reduce some of the technical and logistical issues, and it would be an excellent trial session for a more ambitious event later.

What was our goal in developing this document?

This document was not designed as a rule book, but more of a useful guide book. The goal is to empower you, the organizer, to help enhance the data literacy skills of youth.

The guide is designed for diverse users who may have different needs and comfort with technology.

The Province of B.C. and municipalities, such as Vancouver, Nanaimo, and Surrey, are leaders in open data. The Province alone has over 3000 open datasets which members of the public can freely download, repurpose, and distribute under the B.C. Open Government License.

But the raw ingredients are only the start. This guide is a toolkit that promotes the use of this data. It gives a “thumbs up” to organizers of events willing to help youth become data literate, a critically important skillset.

Not only do hackathons give youth a great opportunity to learn new skills, such events also offer great lessons in civics. In recent years, governments and private sector companies are housing and distributing free “Big Data” sets that hold great information narratives about their clients’ and customers’ options, choices and behaviours. Young people should be able to understand and use data, and gain a greater understanding of how data guides the development of government services and programs. They will be our future makers of public policy and or leaders of future commercial ventures.

Hackathons can seed an interest in data coding. The experience should be educationally valuable and purposeful with a positive benefit for youth and their community.

Data management and coding may be a familiar option for youth but the experience planned should be about digital literacy development, not just web site making. More fundamentally, young people need to play and develop their own creative and analytical skills that will prepare them for the world in which they will function as creators of new knowledge. Let’s give them a flying start.

Organisation of this manual:

- 1 Setting Up Your Event
- 2 Setting Up Your Data
- 3 Creating a Community of Practice
- 4 Coding and Programming
- 5 Logistics and Communications
- 6 The Hackathon Day

Acknowledgement

This document comes from information sources freely available under the **Creative Commons Agreement**. Source information was produced by a range of hackathon experts here in B.C. and on-line. We appreciate their support and contribution.



Planning your event

Gather Your Organization Team

Start the conversation about hosting a youth-driven hackathon with as many interested people as possible – the more the merrier. As you get others involved, it'll be easier to generate ideas which will help clearly define your hackathon's purpose.

Use social media, networks, contacts, surveys, invitations and even requests for proposals to build your team, get connected and start mind-melding.

Assign roles

Team members can take on specific tasks to make the hackathon a success.

Everyone involved (organizers, facilitators, participants and volunteers) needs to see their contribution and role. Create a clear image of how they all fit in.

Some key roles include:

- A facilitator: someone suited to social and/or technical interactions who will facilitate the hackathon.
- Mentors: community or technical leaders who are willing to share their expertise and knowledge in order to empower participants.
- A communications expert: someone to promote the event and provide regular updates to participants before and after the hackathon.
- A coordinator: to set up a Community of Practice (CoP) to share information and learning with others.

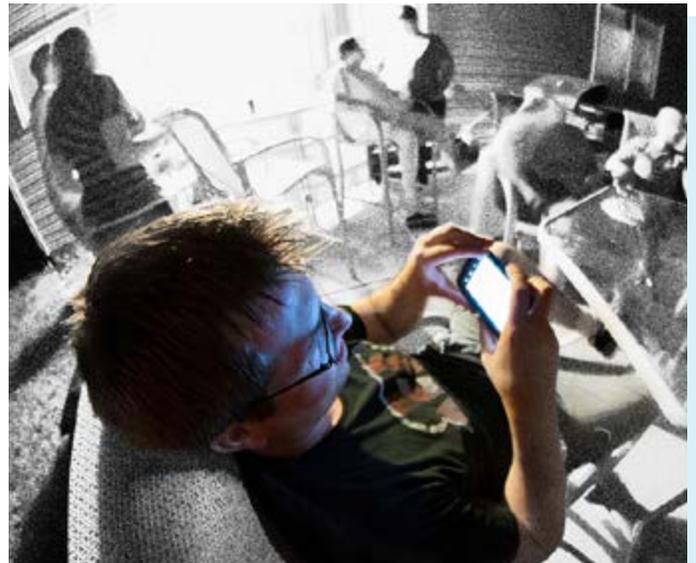
Get Sponsored

Seek out sponsors to help fund your event. As you do, find out if they have any suggestions for hackathon activities, or problems for which they'd like to find a solution. Tech companies, internet service providers or organizations with a community focus might be willing to help out financially or otherwise.

* What Do Organisers Need To Do?

Check list:

- ✓ Establish a working team and advisory team
- ✓ Set the purpose
- ✓ Find experts
- ✓ Set a date and a name
- ✓ Send invitational messages
- ✓ Set up a web-site
- ✓ Engage sponsors
- ✓ Put out a call for proposals
- ✓ Do a technical capacity assessment



Define Your Event

Purpose: With your team, outline the objectives, goals, content and overall participant experience for your event. For example, your event may center on improving social interactions and highlighting motivational experiences. Or perhaps the focus will be on developing solutions through competitive challenges or supporting a local charity.

Name It: Defining your core purpose will help your team come up with a meaningful event name.

Save the Date: Hackathons take concentrated effort over at least one day, so try to plan for a weekend when most people don't have to work. If this is happening on school premises during a regular day, include teachers and teacher librarians in planning the event.

Set a Location: Participants will need to access online resources like Application Program Interfaces (APIs – more detail to follow), data repositories and useful software. Book a large enough venue that has a stable technical environment and networking capability. There may be experts in your community who can help find these types of locations – sometimes there are even dedicated 'Hacker Spaces'. Remember that your local school or community library could be an ideal location because they usually have access to computers and the Internet.

Other important things to remember...

Security: Develop a 'No Liability or Implied Risk' policy. Remind participants to look after their personal belongings and technical assets.

When inviting visitors into any location it will be necessary to describe the security process for access for these visitors. Simple clear instructions are needed.

Personal Information Security: This focus on security means being aware of and avoiding any personal information disclosure. It would not be in anyone's interests that participants release their personal information while on-line that may breach their personal privacy prior to, during the course of, and after the event

Personal Security and Freedom of Information: Most schools and libraries have fair and safe use policies.

Protecting students' personal information is very important at any event. Organisers should make it clear that there is no reasonable reason to surrender personal information of data at an event. There are guidance links and some B.C. school district policies in the [Appendix](#).



Communications: Tell the world what you're planning – creating an online presence with event details will help. Do whatever you can to make sure that those in education and community professional groups get the message using social media and other tools. Tell participants that any intellectual property developed at the event belongs to them.

Design: Create ways to share information, instructions, posters and bright ideas. Design a generic logo for the event that is used consistently.

Registration and Schedule: Publish an itinerary well in advance and include specific information about signing up. Clearly communicate that there are **no fees** required. Once participants are registered, make sure they receive necessary event information and login protocols that will last the duration of the event.

Technology Check: If possible at the event location, take your hardware, data repositories, and web connections for a test drive. Have a dry run with specific team members and leaders well ahead of the event.

Make sure all bases are covered – confirm that all appropriate facilities, audio visual resources, insurance information, security and access to technology are in place.

B.Y.O.D Bring your own device: Unless the event location can provide all the hardware required, it is likely that participants will bring their own devices. In most cases these are personal laptops. There is an advantage in this as the youth will know their own software and may have their own external hard drives.

Coding Software: If a local facility will allow young people to use on-site equipment, it will be important that they can access and use appropriate functional software for coding. The local site technician will be able to support this and it should not be a complex process.

Make sure all bases are covered: Confirm that all appropriate facilities, audio visual resources, insurance information, security and access to technology are in place.



Setting up your data

There are a few ways to organise data collection. Let's think of data as a pile of driftwood on a beach. Options include using the raw material to make a specific structure, such as a shelter or simply an interesting freeform creation. These two approaches apply to how participants use their data on the day of the event.

You may want to focus your event on a specific problem, solution or idea. In that case, strategically collect the right data before the hackathon event [the shelter].

For example, if someone had a very prescriptive idea of what they want to address, say a local traffic safety issue, their pitch would be, "Are traffic incidents near schools a concern to us?" This defines clearly the kinds of datasets that will be used; participants can focus their efforts and will likely get well on the way to a specific output that addresses the traffic and safety question. The action becomes combining these data into meaningful graphics or maps or becoming the start of a useful app. This approach takes the pressure off the organisation team having to find and format entire datasets. This approach is recommended for youth with some coding experience.

The 'freeform' approach starts with hearing about the range of potential opportunities that participants want to explore. Participants form teams based on their interest in the 'pitch' that someone presents. They research the issue and find data sets that are linked to the idea.

It can be useful if the organisers generate a range of ideas or themes before the hackathon in case the participants don't come up with any ideas for a 'pitch'.

Finding Data

When looking for data, a good place to start is open data provided by various levels of government or other trusted organizations. All data sets should be reviewed to confirm that they're easily accessible, standardized and in a usable format.

* What Do Organisers Need To Do?

Check list:Check list:

- ✓ Design the process to identify and get the right data
- ✓ Set clear goals –find the data
- ✓ ID Reliable data
- ✓ Look to Government sources
- ✓ Estimate the size of data sets
- ✓ Catalogued sources
- ✓ Make sure data is reliable
- ✓ Set up collaborative opportunities

Useful extras:

List of Developer tools

<http://www.opendatabc.ca/developers.html>

List of 250 Data sets

<http://www.opendatabc.ca/data>

GISday

Visit DataBC for more information.
www.blog.data.gov.bc.ca/opportunities



Collect, Test and Store Data

Any datasets you provide should be tested for reliability. Start by downloading and importing a small number of records before going ahead with multi-gigabyte files. Then, have a developer or other technical person check the data in advance. They can help interpret it and ensure its structure and format is usable (e.g. CSV, XML, JSON, RDF or Excel).



Once you've got datasets downloaded and formatted, store it where users can easily access it during the hackathon, without complex logins or registration requirements. This will save time for participants, which will help to maintain momentum as the event kicks off. Consider using servers, memory sticks, repositories or wiki platforms to help with this step.

Wikis

Data sets can be housed for a short while in any repository or wiki that is developed for the event. A wiki is a web site developed collaboratively by a community of users, allowing any user to add and edit content.

Consider some of these online resources for accessing well-used and reliable datasets:

Free data sets:

- DataBC – free government datasets
- The World Bank
- UNESCO
- Municipal governments

Other sources of information can include:

- Local businesses
- Information technology and software development companies
- Trade associations
- Educational institutions

Organizers can continue to add useful data sets from team members, mentors and other supporters ahead the event.



Setting up a community of practice (COP)

Before you go any further, you can enhance your hackathon experience by setting up a Community of Practice (CoP). CoPs can be helpful in sharing information, experiences, and learning opportunities with others. This sharing develops the technical, social, and professional skills of everyone involved. Set up a CoP by choosing a network of people who will be interested in hackathons – consider starting with educators, data users, local bloggers, municipal data coordinators, or Geographic Information Systems (GIS) specialists and experienced youth. Their input will help to increase data literacy and provide plenty of ideas and opportunities for your event.

Keep the momentum

Try a [community of practice wiki](#).

Using an on-line collaborative space like a wiki can help connect your COP prior to the event, and help people stay in touch before and after the hackathon.

It can be useful to use the wiki to advertise the existence of a local code academy and allow youth to immerse and even play with simple operations that have been placed on a community wiki.

* What Do Organisers Need To Do?

Check list:

- ✓ Set up a process to begin a COP
- ✓ Find technology contacts
- ✓ Find education contacts
- ✓ Develop community contacts including
 - Mentors
 - Sponsors
 - Youth Reps
 - Hackathon Experts
- ✓ Create invitational messages
- ✓ Make collaborative opportunities

Sources:

http://en.wikipedia.org/wiki/Community_of_practice

http://en.wikipedia.org/wiki/Etienne_Wenger#cite_note-2





Communication + logistics

Ideally, you want technology talent and leaders to buy in, spread the word, attend, and encourage others to attend your hackathon. Consider a communications and marketing strategy that will attract the right people to your event. Your communications strategy might include the following elements:

Communications objectives – outline what you want to achieve with your communications. Do you want to target a specific group of people? Do you want to reach the largest number of people possible?

Audiences – think about to whom you want to target your communications, and the best ways to reach these groups. For example, using social media to target youth.

Strategies and tactics – consider what you want to accomplish with your communications, and the specific actions you will take to do this. For example, you may want to develop awareness of your hackathon with students in a particular school, so one of your tactics might include sending an invite directly to the school Principal or a specific teacher who is interested in technology.

Key Messages – these are generally written as ‘feature and benefit’ statements and should be included in the various communications materials that you send out or produce.

Action plan – this should include a list of specific communications channels, who is responsible for crafting and sending out messaging, and firm timelines for completion.

* What Do Organisers Need To Do?

Check list:

- ✓ Set up community bulletins and on-line accounts:
 - Conect to local school district communications staff
 - Develop a presence on tech forums and chats
 - Local News media
 - Twitter
 - Facebook
 - Foursquare
 - Tumblr communities
 - E-Mail Lists
 - Google+
 - LinkedIn
 - Yammer

Contacts:

- ✓ Technology
- ✓ Community
- ✓ Sponsors
- ✓ Hackathon Experts
- ✓ Education
- ✓ Mentors
- ✓ Youth Reps

Tips to Remember:

- ✓ Keep printing costs low

Some specific elements in your action plan might include:

Announcing your Event

Make it official. Advertise your hackathon specifics – the theme, location, requirements and people involved. Use a tone that conveys a sense of fun and enterprise. This will help attract participants, sponsors and technology leaders. A social media strategy will help keep the information dynamic and will generate recurring interest.

Encourage shared ownership of the hackathon with others in your community. Focus on how it can support multiple objectives like promoting the arts, technology development, or various social causes. There might be others who'd like to align with your core purpose – for example, a local charity might see ways to include fundraising activities.

Create a web presence

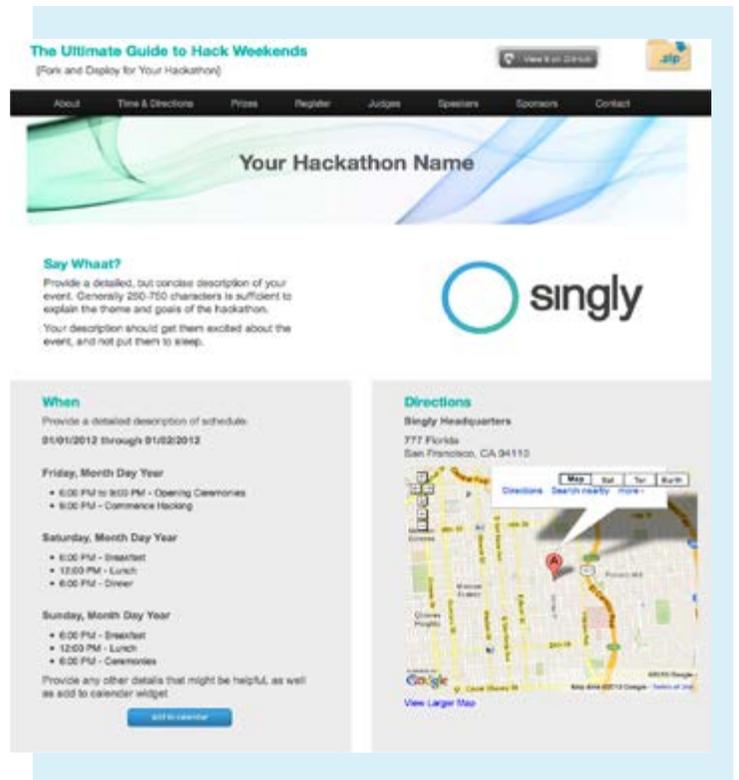
Have a fresh and engaging web space that brands your hackathon and provides details, calendar entries, participation opportunities and key contacts. Refresh your event information frequently and notify all subscribers. This can also host your community of practice (wiki).

It's also helpful to include links to other hackathons. Showing local, regional or international hackathons will give people an idea of what your event will be like. [Check out a sample hackathon website template.](#)

The 'Nitty Gritty'

Before getting in to the actual events during the hackathon, there are a few more items that we wouldn't want you to forget:

- Ensure operational / technical supports are in place – like access to facilities, servers and the Internet.
- Customize both paper and online invites.
- Develop a registration process – an online process similar to [Eventbrite](#) will make things easier.
- Notify organizations like [Twitter](#), [Google](#), and [Freenode](#) that there'll be some increased traffic or a high number of connections expected from your IP range.
- Make sure your caterer gets everything to the right place at the right time.





The hackathon day

Now that you have done your planning, it is time to focus on the hackathon day.

We've included task lists in this section to give a quick reference guide for the various stages of the day.

Task List

- Technical person tests the network 45 minutes before event starts. Set up the reception table for food and snacks.
- Post signs at the building entrance and within the building with clear contact information for the event in case participants are unable to access the building or get lost.
- Arrange the work tables; ensure there is enough power outlets and space for computers and food.

Setting Up Early

Ideally, you will have a technical person helping you convene the event. Have them arrive early and double check all the components.

Your technical resource people should complete their list of tasks, before the hackathon event or at least early enough in the morning so they can be ready for predicting and troubleshooting any problems that may occur.

Technical Review

- Network check. Determine who is available to support the network. If it goes down, who is available to fix it?
- Run a couple of basic internet speed tests and make sure there is sufficient bandwidth available.
- Make sure there are no HTTP proxies in place, and that the network is unfiltered.
- Test that SSH, FTP and any other applications can connect externally.
- Make sure quality networking equipment is in use for wifi and get any wireless login credentials. Try to avoid networking configurations that are set up with a web-based login system, as these can cause technical issues. If this is the case, see if you can get a clean line and set up your own wireless router.

Arrange the work tables

Allow spacing for both laptops and food/drink at the tables. Make sure there are enough power outlets (powerbars) at each table. It is a good idea to have enough wired network jacks at each table in the event they are needed.

Comforts

While the technical details are being sorted out, another organizer will be setting up the reception table, food, coffee, and nutritious goodies.



Signage is important

Make sure there are signs that let the participants know they are at the correct building and the right room. There should be contact information on these signs and if there are access controls (security, locked doors, etc.) in place, someone should be actively monitoring to make sure no one is stuck outside. Don't rely on a 'call us when you get here' system because not everyone will have a mobile phone.

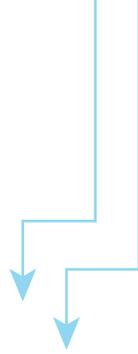
Inside the room, use signs, a whiteboard, or a flipchart to communicate relevant information to your attendees, such as the wifi access credentials, website urls, Twitter hashtag for the event, etc. Use text large enough to be read across the room.

Greeting and Registration

As people arrive, welcome and direct them to the area where they'll be working and where they can find drinks and snacks. If you have a photo release form, this is a good time to hand it out, ask them to sign it and return it to you. Parents will have to accept the terms on behalf of those under 18.

Task List

- Greet arrivals and direct them to work space and snacks.
- Hand out photo release form.



Start With the Right Tone

Start the event on time, only delaying if you don't have enough people to get started. Don't delay the start more than 15 minutes – this honours the people who arrived on time.

When it's time to start, the facilitator should give a brief introduction, being sure to cover the following topics:

- Facilitator's name and why people organized the hackathon.
- The title and theme of the hackathon.
- A 'thank you' to the participants for attending, and an assurance it will be a fun day.
- A 'thank you' to the hosts and sponsors for providing food, space, etc.
- An overview of the day.
- An introduction to open data.

If there is time available, participants may introduce themselves and share what brought them to the hackathon. This breaks the ice and gives people some context as to who is in the room with them.

Finally, "Any questions?"

Hackathons and Open Data use are relatively new concepts to many people, but you can give them an idea of the format, so they can relax and focus on the next task.

Agenda for the Day

We recommend a certain flow to a hackathon. The main components for the day are as follows:

Introduction

- Brainstorming
- Break
- Pitches (Breaking into Groups)
- Idea Development
- Lunch
- Solution Development
- Show and Tell

Close out remarks

End of day



Here's an overview of each of the major components:

Brainstorming

People often approach problems with preconceived ideas about what's possible, based on what they know and their experiences to date. This is the time to stretch participants' thinking. The facilitator's job is to expand the realm of what's possible so that participants can generate ideas they may not have otherwise thought of. Take them past the point of "you don't know what you don't know".

Task List

- Describe the brainstorming process.
- Facilitate the brainstorm to draw out participants' ideas and connect individuals and groups who may want to work together.
- Provide a form or spreadsheet to capture ideas.
- Advise that ideas will be posted publicly on the web.

There is a tendency to be realistic and come up with small, or practical solutions. This is fine as simple solutions are often the best solutions. The facilitator will want to encourage participants to explore 'everything that's possible'.

Provide a shared form, spreadsheet or white board to collect the generated ideas.

Google has [free spreadsheets](#) that are perfect for this purpose.



Here is an example of what your generating ideas document could look like:

Field Name	Description
Title	Project Title
Description	Brief description of project
Audience	Who would benefit from this project and roughly how many people would this represent?
Data	What data is needed?
Where	Where is the required data? Paste URLs into the data if it is known.
Skills	What skills are needed to further this project?
Considerations	Are there any other considerations? (threats, risks?)
Similar	Is this project or a similar project being done elsewhere? Provide URLs if possible.
Collaborators	Who is working on this project? (names, twitter IDs) If you prefer not to say, that's okay too.

Let participants know that any digital spreadsheet is public on the Internet. If they don't want to make their idea public, they may not want to use the tool. A white board and markers in the room is useful to capture ideas as they emerge.

Once you have described the brainstorming process, invite participants to start coming up with ideas. The more ideas, the better. Encourage them to discuss their ideas with their neighbours.

Let them know the brainstorming will take place over the next 30 minutes and that at the end you will be inviting them to talk about their ideas with the room.

The facilitator can wander around the room and chat with people 'one-on-one' to see how they are doing. Different people engage differently when given an opportunity to brainstorm. Some will jump right in and will engage with others around them. Some will want to work on their own. Others may feel awkward or shy. The hackathon team members can help by going from team to team or person to person and checking in with them, asking "How it's going?" Sometimes a suggestion that people work together or for someone to join a team is all it takes to make a participant's experience more engaging.

It takes awhile for people to warm up and for the ideas to start flowing. Remind people to record their ideas and give periodic reminders about how much time they have left.

Pitching

In the pitching phase, invite participants to stand up at their tables and share their idea with the room. The purpose is to introduce "the idea", so they can attract other people to work with them (hence, the name 'pitching'). They don't have to end up working on that idea for the day, but they should pitch it in such a way that others recognise the value of their idea, and are inspired.



This is an opportunity for the organizers to inject some fun into the hackathon day, by encouraging participants to do a really great sales pitch for their ideas.

Task List

- Invite participants to pitch their project ideas so that others want to work on the project with them.
- As the organiser, pitch a few ideas of your own to make others feel comfortable.
- Ask those who pitch questions to identify what skills are needed; this will help potential collaborators decide who to work with.
- At the end of the pitches, encourage other participants to go work on the projects that interest them.

People are often nervous about standing up in the room and pitching their idea. It helps if they see other people do it first so the facilitator should have one or two ideas to pitch or have other team members, especially a 'Ringer', a well-experienced expert, prepared to pitch.

As the facilitator, ask probing questions, especially if ideas require some particular skills (such as graphic design, writing, or data entry). Let participants know this is the time to attract other potential collaborators with a varied range of skills.

Encourage people to move around and work on the idea they like. In some cases, someone wants to work on their own idea. Let people know it is okay to work alone, or in a group.

The event communications person can do status reports and send [Tweets](#), [Facebook](#), [Tumblr](#) or [Google+](#) updates to the public and interested stakeholders.

This gives up to the minute reports of the progress of the event and is great for non-participants to read. These observations are useful for the participants to reflect on after the event.

Formulation

When people move into their groups, they will be tempted to jump right in and start working on the project. Suggest that they should spend some time thinking about and developing the idea and that they work on the whiteboards or on paper as a team to develop the idea for an hour or so. The facilitator can suggest they focus their idea down to its core so that they can have something to demo to others by the designated show-and-tell period near the end of the day.

Task List

- Suggest that before participants start coding they spend time thinking about developing their idea, either on a whiteboard or paper and pencil.
- Advise participants to focus their idea so they have something to demo at the end of the day.

This is the time when the group can allocate tasks so everyone has something to do and the project progresses as quickly as possible. This stage can be a bit chaotic as participants find places to work, and shift to where they want to work. The facilitator is walking around the room checking in and watching as they are getting into groups. This is the time for encouragement.

Lunch

At some point during this stage, lunch should arrive. However the facilitator should encourage participants to keep talking and working through lunch, and remind them that they have until 4:30 (or whatever your time for show-and-tell is) to work on their projects.

Task List

- When lunch arrives encourage participants to grab a bite, but to keep working because at 4:30 pm they will demo their projects.

Concentration

Concentration is the stage where people are actively working on their projects. The organizing group can check on the various teams, answer questions, then support and encourage people as they go deeper on their own projects.

One of the most important tasks of the facilitator and the organizing team is to make sure everyone who wants to participate gets their opportunity. Sometimes there may be youth who are not participating. This may be because they don't feel they have anything to contribute, or because they are there to watch. It's worthwhile having a quick conversation with them to see if they can connect with one of the groups, even if it's just for idea generation and discussion. It's fine that youth observe. The important thing is for everyone to feel included.

Task List

- Check in with the teams, answer questions and whenever possible, provide support.
- Ensure everyone has a chance to participate if they wish.

Generally, the pace of the coding picks up and the mood in the room is more focussed. Teams are aware there is a deadline. The facilitators will need to encourage the teams to get to a completion point in the coding process and then begin to close out any coding so that it will be ready for a collective 'show-and-tell' stage.



The clock on the wall indicates "Game over" and it's now time for "show-and-tell".

Show-and-Tell

This section gives people an opportunity to show what they have worked on and get some feedback from the larger group. Not every group will complete a project, but showing how the people have worked through to an interesting stage is very informative to the audience.

Task List

- Make sure the projector is setup before you begin the project demos.
- Ask the teams to finish up.
- Ask volunteers to come up and connect their laptops to the project and show-and-tell their projects.



Organizers will need to have the projector set up, with accessible cables connected to laptops.

Ask the presenters to show what they have worked on and how they did it. The facilitator should encourage questions from the floor.

As most projects have been worked on by teams, there will often be at least one person in each group that is comfortable and willing to show the outcome. This is a great time to send more [Tweets](#), or do [Facebook](#), [Tumblr](#) or [Google+](#) updates.

Each “show-and-tell” session should be completed in 5+ minutes. Overall, organizers should expect this stage to take 30 to 60 minutes depending on the number of participants.

This is the time for surprises, excitement, applause, reassuring comments and congratulations to the teams.

Appreciation

Now you are coming to the end of the hackathon Participants can relax, the pressure is off and the organizers have the opportunity to:

- Thank the host and sponsor for providing the space and food (or whatever applies).
- Thank participants for their generosity – especially if your hackathon is a weekend event, and they have given up personal time to be there.
- Thank any data providers.
- Thank any special guests.
- Make the closing remarks.

Task List

- Thank everyone involved.
- Any future events? Let participants know now.
- Let participants know where they can get more information about the community of practice.



For the closing remarks, you can mention any specific ‘goodwill causes’ that brought people together (a specific charity or “open data experiment” for example). Also add notices of upcoming events.

- Make sure everyone gets a paper evaluation or they commit to completing a post-event, on-line survey.
- There is a sample evaluation document in the **Appendix 1**.
- Let people know where they can get more information about this community and other communities of practice through your follow-up mailing list, web site, or post event wiki.
- Ideally, participants leave with enhanced self-confidence, new skills and possibly the motivation to continue the work and connections as well as signing up for the next event.

Possible Challenges on the Day

Because the fast-moving pace of technology and the amazing skills that people have developed, sometimes these events attract recruiters to “headhunt” or recruit promising people for their companies or projects. If this is their goal, it is best to wait until the end of the day and the hackathon is complete before mentioning this. It can change the dynamic of the event if it is known too early and may disrupt the work in progress.

Task List

- Ask any self-identified recruiters to wait until the end of the day to headhunt.
- Try to minimize distractions and chat.

If a social event is planned after the hackathon, you can suggest to the recruiters that this would be a better venue to engage with participants about employment opportunities.

Sometimes, participants can be very chatty, and you may find a lot of talking is not conducive to productivity, particularly if tricky developing is underway. See if some separation is possible, to draw the chatty participants away from the development teams.



Clean Up

Simple courtesy requires that all the participants help to ensure the room is in as good or better condition than when everyone arrived. Doing so is important for the reputation of the event, and the sponsor's support. It may also secure the willingness of the site host to allow future events.

Ideally, three or four people should be volunteer 'clean-up crew' at the end. Anyone who can lend a hand in restoring the space is welcome.

Task List

- Leave the room cleaner than you found it; ask for volunteers if you need help.

After Event: Post Event Social

This can be a great opportunity for the youth to talk about their projects and new possibilities they have invented.

Even after your event is technically over, there are still opportunities to connect with your participants, it's another opportunity to thank them, recognize what they accomplished through their participation and demonstrate progress toward the overall goals of your hackathon.

Task List

- Consider a post event social; a great opportunity to build a community, talk project ideas, and thank the participants again for attending.
- Follow up with an email summary.
- Blog or tweet about the event.
- Ask the participants to complete an online evaluation of the event.



The Post-Event Process

The Epilogue

- Keep an on-line presence.
- Ask participating youth to add their thoughts that captures the tone and spirit of the day.
- Acknowledge volunteers, assistants, schools, libraries, businesses, community, developers, venue hosts, experts, leaders, media contacts.
- Connect with all the participants and express appreciation for their contribution and ask “what’s next?”.
- Keep the online presence open for 3 months after the event.

Task List

- Keep an online presence to connect with participants, and ask “what’s next?”
- Update your website with pictures and new feedback from participants and others.

Celebrate Through The Website

- Update the website with pictures from the day and high-light some good quotes or comments.
- Profile post –event successes, acknowledgements, and endorsements
- Make all project code available through the wiki.
- As soon as possible, post an invitation to a similar event.
- Post a picture of the organizing team as they sit back and take it easy... for a short while till the next event planning starts.

Setting Up Your Hackathon Project – A Quick Primer

Set your Strategic Context

- Show the data that can be used
- Map the process you want to take
- Work with associates to define your audience
- Define your Goal and the Benefit Objectives
- What Are the Options for Tools- What range of Possibilities
- Proposal for Action – Task definition and Assignment
- Identify Risks – Avoid Stalls
- Show the Benefits – Layout the Shortest Route
- Revisit Various Steps and Stages as the Process is Moving Forward
- Output and Demonstration
- Conclusion and Congratulations



The Hard Stuff: The Hackathon Event

- You will have a technical person helping you convene the event. Have them arrive early and double check all the critical components. Your technical person will want to complete the following tasks, long before your hackathon is due to begin (the night before, ideally, or at least early enough in the morning to troubleshoot any problems that occur).
 - Check the Network – Electricity supply, breaker box or know how to access technical or janitor help.
 - Determine who is available to support the network. If it goes down, who is available to fix it?
 - Run a couple of basic internet speed tests and make sure there is sufficient bandwidth available.
 - Make sure there are no HTTP proxies in place, and that the network is unfiltered.
 - Test that SSH, FTP and any other applications can connect externally.
 - Make sure quality networking equipment is in use for wifi and get any wireless login credentials. Try to avoid networking configurations that are set up with a web-based login system, as these can cause technical issues. If this is the case, see if you can get a clean line and set up your own wireless router.
 - Arrange the work tables – power cords, cables, safety.
 - Try to allow for enough spacing to allow both laptops and food/drink at the tables.
 - Make sure there are enough power outlets (power-bars) at each table. As well, preferably enough wired network jacks at each table in the event they are needed.
 - While the technical details are being sorted out, another organizer will want to be setting up the reception table, food, coffee and snacks.
 - Projectors; set-up quickly for demos, easy connecting to the projector.
 - Signage is important. Make sure there are signs that let the participants know that they are at the correct building and that they've found the right room. There should be contact information on these signs.
- Emergency plans**
- Make sure you have a plan for attendees who are injured, fall ill or suffer any other emergencies.
- Credits: Singly Hackathon Guide**
<https://github.com/kinlane/hack-weekends-guide>

Useful Reference Sites

Freedom Of Information And Protection Of Privacy:

[Freedom of Information and Protection of Privacy Legislation](#)

(General information respecting use of personal information: Section 69 (1))

School District Examples:

Coquitlam BC -SD#43

- [Internet Acceptable Use Policy](#)

Nechako Lakes SD#91

- [Acceptable use policy](#)
- [Information Technology](#)

Evaluation Questions

These evaluation questions can be used by the organizing team to reflect on the hackathon project. The answers will provide invaluable information to guide the next event. The questions can also be modified to gather information from event participants.

- How was the overall experience from your point of view? How did the team participants grow through the process?
- What worked well ? How come? What didn't work well? Why not?
- What things should we do differently for next time?
- Did the whole project meet the greater goal? How and where did it fall short?
- Were there downstream benefits?
- What was unexpected?
- Did the project have the stakeholder and participant support needed?
- Did the project have the appropriate technical resources, human expertise, and level of participation?
- What's next?
- Can the project get some profile? Are there ways to share the success?

Sample Invitation Letter

Title and Logo of The Event

Full Address

Dear (someone specific here),

The local library and secondary school in this town are organizing a Hackathon event next month. Times are changing and this is an opportunity for youth and community to commit their time to the process of addressing technical and social problems through collective creativity and data management.

As organizers, our hope is that your business can be involved! We want to create Open Source tools to help Government and Non-Profits create usable websites thereby increasing their visibility on the Internet.

Here's how we can meet our goal and match you business objectives too. We are gathering groups of volunteer programmers, designers, and graphic artists to build open source tools. We hope that your team can be a part of this.

We recognise that your organisation fits our project goals. The fact that the software is open source means that it will be available for free to ALL non-profits and governmental entities. We hope this will help encourage adoption.

At our other Hackathons, we were able to create over 20 new features for non-profits including a disability-accessible events calendar, a consensus wiki, and a voting module.

Recognition as a supporter is important to us, our participants and your company. All sponsors will be recognized both on the event website, our organization's website, and our promotional videos. This is a great way to obtain visibility in the open government and library communities.

Our previous event had news coverage on CBC News Vancouver, 101.1 KRADIO, and 90.5 CBC. You can also see our YouTube video from the last event here: <http://www.youtube.com/watch?v=ourhackathon>. Additional event information is available at <http://ourhackathon.com>. For sponsorship details, please contact Bob Smith at 987-765-4321 or ourhackathon@hotmail.com.

Thank you for your time and consideration,

Your name or signature

Basics of Programming: 'A Coding Primer'

(This section is for beginners to advanced coders)

We have included some examples that can help young people get started on a very basic level and still have fun coding. There are a range of web examples and practical resources for organisers that support novice skill levels and give an easy insight into the world of code.

Web Programming

- **HTML5** is a web markup language for structuring and presenting content for the World Wide Web

<http://en.wikipedia.org/wiki/HTML5>

- **jQuery** is a fast, small, and feature-rich JavaScript library with an easy-to-use API that works across a multitude of browsers. jQuery has simplified the way people write JavaScript.

<http://en.wikipedia.org/wiki/jquery>

- **JavaScript(JS)** is an interpreted computer programming language

<http://en.wikipedia.org/wiki/Javascript>

- **PHP** is a server-side scripting language designed for web development but also used as a general-purpose programming language

<http://en.wikipedia.org/wiki/PHP>

Other content management systems include:

- **Drupal** is an open source content management platform for websites and applications. It's built, used, and supported by an active and diverse community of people around the world.

- Acquia or Drupal Gardens

<http://drupal.org/>

<https://www.acquia.com/landing/sem/enterprise-drupal-gardens?gclid=CLTz8evEr7YCFSHZQgod3goARw>

- **Word Press** is a widely used blogging and information sharing site. It is free.

<http://wordpress.com/>

- **MySQL** is a widely used open source relational database management system(RDBMS)

It runs as a server providing multi-user access to a number of databases.

<http://en.wikipedia.org/wiki/MySQL>

Data Programming

- **Panda** is an open source data analysis tool based on the Python programming language.

API's Application Programming Interface Data and APIs

- **DataBC** – Provincial dataset –freely available

- **Vancouver Open Data Catalogue**

converting street addresses into geographic

- **WorldBank**

- **iMap BC** is a web-based mapping tool that uses land, resource and other geographic data hosted by the BC Geographic Warehouse.

- **Google's Geocode API** for converting street addresses into geographic (latitude, longitude) coordinates.

- **Twitter** – API is a core developer application for new innovative uses of the Twitter services

<https://twitter.com/twitterapi>

<http://en.wikipedia.org/wiki/Twitter>

- **Google Maps API** allows developers to apply Google tools and services to build innovative location-based apps, Create and demonstrate 3D images, build apps that work on multiple mobile devices

<https://developers.google.com/maps/>

<http://maps.google.ca/maps?hl=en&tab=ll>

Data Management

- **Google Spreadsheets** Google's experimental data spreadsheet for general use and allows multiple user collaboration

<http://www.google.com/drive/start/apps>

[html#product=sheets](http://www.google.com/drive/start/apps/html#product=sheets)

- **Google Fusion Tables** Google's experimental data visualization app allows you to combine your data with other open data to collaborate and share, host and manage data in the cloud.

- **OpenRefine** (formerly google refine) is a free, open source power tool for working with messy data and improving it.

Visualisation Tools

- **Leaflet** is a modern open-source JavaScript library for mobile-friendly interactive maps

<https://github.com/Leaflet/Leaflet>

<http://leafletjs.com/>

- **Tableau Public** - A free and easy-to-use tool that allows you to publish interactive visual data to the web. Frequently used by bloggers and journalists, no tech chops required!
- **ManyEyes** - IBM's answer to data visualization. Browse existing data sets, upload your own data sets and create visualizations.
- **View Share** - is a free platform for generating and customizing views (interactive maps, timelines, facets, tag clouds) that allow users to experience your digital collections.

Online resources for younger participants

- Mozilla web maker
- Mozilla Popcorn Maker - Web environment to allow students to combine various digital resources
- **Treehouse** - library of step-by-step video courses and training exercises will give you a wide range of competitive, in-demand technology skills
- **Scratch** - was developed by the Lifelong Kindergarten Group at the MIT Media Lab
- **Alice** - using an innovative programming environment to support the creation of 3D animations
- **Codecademy** - learn to code interactively, for free
- **Khan Academy** - learn almost anything for free

For older students and organizers

- Learning to Code
- Codecademy
- Khan Academy
- DreamSpark by Microsoft - develop applications for Microsoft software and try your skill and creativity.

Student lesson plans and ideas:

- GIS day
- ERSI
- National Geographic

Useful Links and Web Resources



B.C. Student Codeathon 2011

In 2011, the Ministry of Education co-hosted British Columbia's first student codeathon

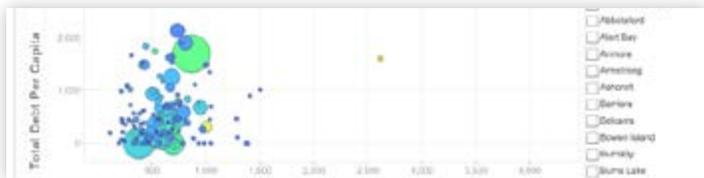
A table titled 'Digital Literacy Standards Integration Matrix' with columns for 'Sample 1' through 'Sample 5'. The first row is '1. Creativity and Innovation' with a sub-row 'Learners:'. The second row contains two items: 'a. apply existing knowledge to generate new ideas, products, or processes' and 'b. create original works as a'.

	Sample 1:	Sample 2:	Sample 3:	Sample 4:	Sample 5:
1. Creativity and Innovation					
↳ Learners:					
a. apply existing knowledge to generate new ideas, products, or processes					
b. create original works as a					

Draft Digital Literacy Standards and Grid of Activities



SchoolZone is a combination (or 'mashup') of public school location data and crash statistics



The data for this **visualization** was provided by the Province of British Columbia under the Open Government License



Communicate using Google Maps and Facebook data

A banner for 'Developer Tools' with the text 'Free tools that are downright useful when creating open data apps.'

Developer Tools

Free tools that are downright useful when creating open data apps.

Developer tools
Data Sets



GIS Day

A banner for 'What is GIS?' with a map background and two buttons: 'What is GIS?' and 'Try GIS'.

What is GIS?

Try GIS

What is G.I.S?



THE WORLD BANK
Working for a World Free of Poverty

[The World Bank](#)



UNESCO

[UNESCO](#)

Hackathon

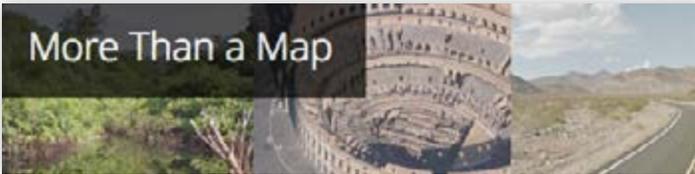
From Wikipedia, the free encyclopedia

[Wikipedia - Hackathon](#)

WIKIPEDIA
The Free Encyclopedia

[Wikipedia - Main page](#)

More Than a Map



[Google Maps API](#)

Using the Twitter Search API

[View](#) [What links here](#)

(updated on Sat, 2012-08-25 10:06)

API version 1 API version 1.1

[Twitter Search API](#)

The Ultimate Guide to Hack Weekends

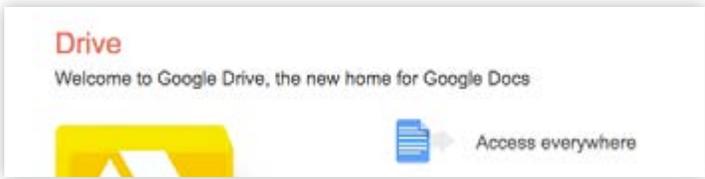
[Fork and Deploy for Your Hackathon]

[GITHUB](#) sample set-up

The Hackathon Is On: Pitching and Programming the Next Killer App

By Steven Leckart [✉](#) February 17, 2012 | 3:37 pm | Categories: [Wired March 2](#)

[Wired Magazine](#)



Google Drive – Free account



Ken Roberts Vision document (PDF)



OCLC Research



ICBC Traffic Collision Statistics



The Interactive BC Carbon Map



OpenDataBC is a collaborative effort by a group of B.C. citizens Hackathon Projects



Running a Codathon



YouTube – How to run a hackathon



[City Of Vancouver Open Data Catalogue](#)



[Personalized Learning BC](#)



[Creative Commons](#) – copyright licenses and tools
[Science Program](#) and [Weblog](#)
[Creative Commons Licence Information](#)



[Hackathon ‘How to Guides’](#)
[Open Data Hackathon How to Guide](#)
[The Hack Day Manifesto](#)
[10 tips for Hackathon success](#)
[The Ultimate Guide to Hack Weekends](#)



[Code Club UK](#). For Younger Students. A nationwide network of volunteer-led after-school coding clubs for children, aged 9-11
[YouTube](#) – Talking Code



[Young Rewired State](#) is the philanthropic arm of Rewired State and is a network of software developers and designers aged 18 and under.
[YouTube](#) – SAP Young Rewired State 2012



[Points of Inquiry](#) – BC Teacher Librarians Association (PDF)



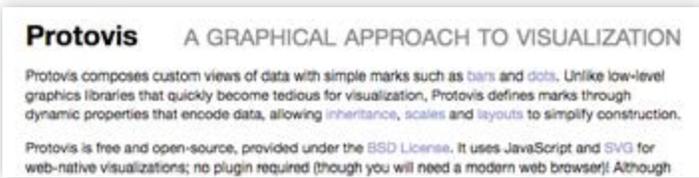
[National Geographic](#)



[Youtube](#) – Facebook Hackathon



[Survey Monkey](#)



[Protovis](#) – Visualisation free on-line site



[Building an app](#)



Ministry of
Education



DataBC