



Blackboard Mobile™ Central Implementation Guide

Blackboard Mobile Central Implementation Guide

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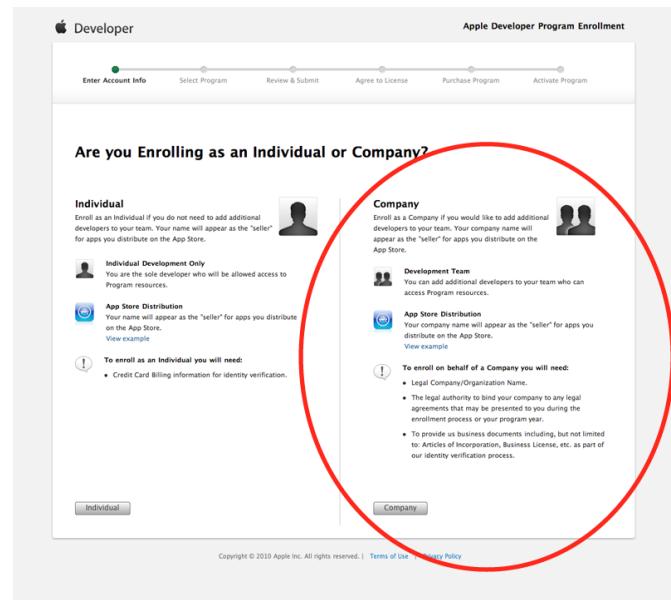
Enrolling in the Developer Portals

iPhone Suite:

Enroll in the Apple iPhone® Developer Program

(<http://developer.apple.com>)

- Make sure to sign up for the “Standard Company” developer program, which will cost **\$99/year**.
- If possible, we encourage you to gather the IDs of all the devices (iPhone and iPod® touch) to be used for testing and enter that information into the Developer Portal to prepare for testing (see “Testing the Applications”). Instructions on finding the IDs of test devices can be found on the Developer Portal.



BlackBerry Suite:

Create a vendor account for BlackBerry App World™

(<http://appworld.blackberry.com/isvportal>)

- There is a registration fee of **\$200** (includes 10 application submissions/updates).

Note: For the purpose of creating a project timeline, please note that releases for the **iPhone and BlackBerry®** suites most often take 2-3 weeks from the time of submission, but can also occur outside of this expected range.

Android Suite:

See Page 5 (“Android Project Management”) for details on your Android Mobile Central implementation. You will need to create a new Google account and link it to an Android developer profile.

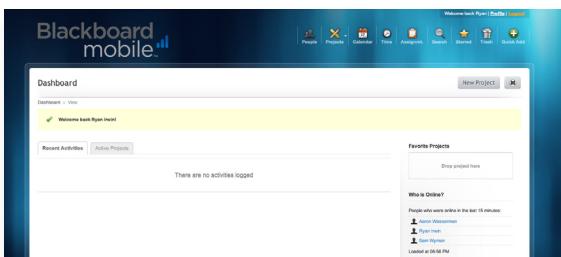
- There is a one-time registration fee of **\$25**.

ActiveCollab

Introducing ActiveCollab for Your Mobile Central Application

Blackboard Mobile is using a web-based project management tool, ActiveCollab, for the implementation of Mobile Central. ActiveCollab allows you and your Blackboard Mobile Implementation Manager to pass information and files back and forth without the fragility of email, and provides clear visibility into the status of the implementation project at any point in time.

ActiveCollab is your one-stop shop for all questions, status updates, file sending, or other information regarding your Mobile Central Implementation.



Start using ActiveCollab!

If your data services have been implemented, you should have received an ActiveCollab username and password. If you are mid-way through the implementation process or just getting started, these will be sent to you after your data services have been implemented. If you did not receive this information but believe you should have, please first check your spam folder, then email mobile_implementations@blackboard.com

Logging into ActiveCollab for the first time:

1. Login to ActiveCollab at <http://project.medu.com/>
2. Open your Mobile Central project from your “Projects” page (upper right).
3. Open the “Tickets” tab to see all of the Milestones with open tickets to be completed before your Mobile Central goes live for your mobile platform.
4. Make sure to read our brief introduction to using ActiveCollab for this project in the first milestone titled: “Welcome to ActiveCollab.”

The Future of Mobile Central Project Management:

A One-stop Shop:

The project management features in ActiveCollab will eventually be found in the Blackboard Mobile Portal.

Not Familiar with the Blackboard Mobile Portal?

Portal is where you can access Analytics for your iPhone Mobile Central App.

Specifications

This is the section that you will use to learn about all of the information that we will need from you to implement your customized Blackboard Mobile Central app. There are two primary methods for providing data:



OR



1) Web services

2) Hosted data extract

So that we can begin development immediately, we request that you **provide us with data** conforming to the detailed specifications included and **complete the form elements** below with information about the data you are providing. We ask that you **use Adobe Acrobat** (Reader or Pro) to fill out this form so that you can save the PDF with the form information completed. After this document has been completely filled out and saved, please **email it to mobile_implementations@blackboard.com**.

Module Checklist:

Use this checklist to indicate which applications are to be included in the Phase I implementation of your institution's Mobile Central suite and to confirm that all required data has been provided and all required fields have been completed.

Phase I:	<input type="checkbox"/>						
Data provided:	<input checked="" type="checkbox"/>						
Phase I:	<input type="checkbox"/>						
Data provided:	<input checked="" type="checkbox"/>						

General Notes: **3rd Party Vendors:** If you work with a third-party vendor for any of the desired data, let us know, and we may be able to work with that data directly.

XML Validation: Any XML provided should be validated using an XML validator such as: <http://validator.w3.org/>

CSV Formatting: All provided CSV files should include a header row with attribute labels.

Custom Options: Due to the additional time and resources required, we reserve the right to charge a fee after providing an estimate.



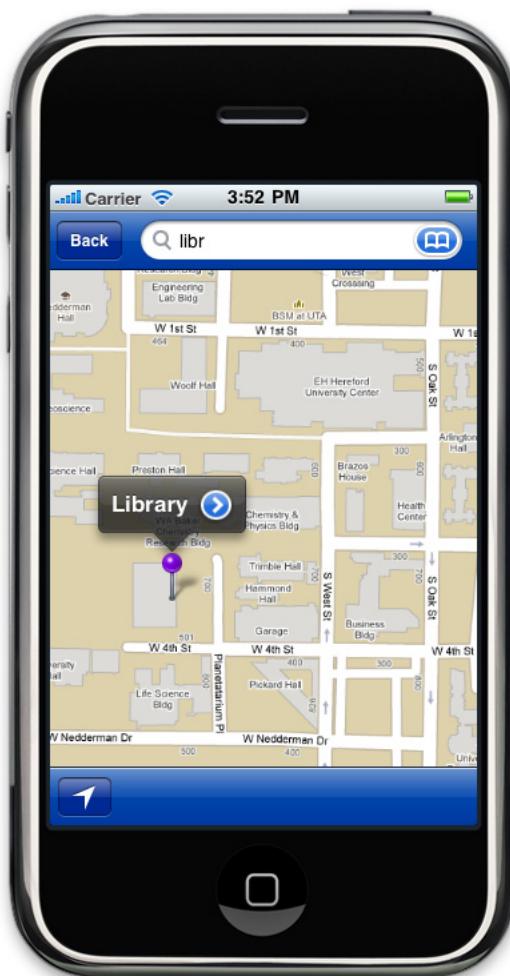
Static Resource: Please email resources marked with this icon to mobile_implementations@blackboard.com

* Transit, Places and Tours are provided as plug-ins to the Maps application (see Page 8).



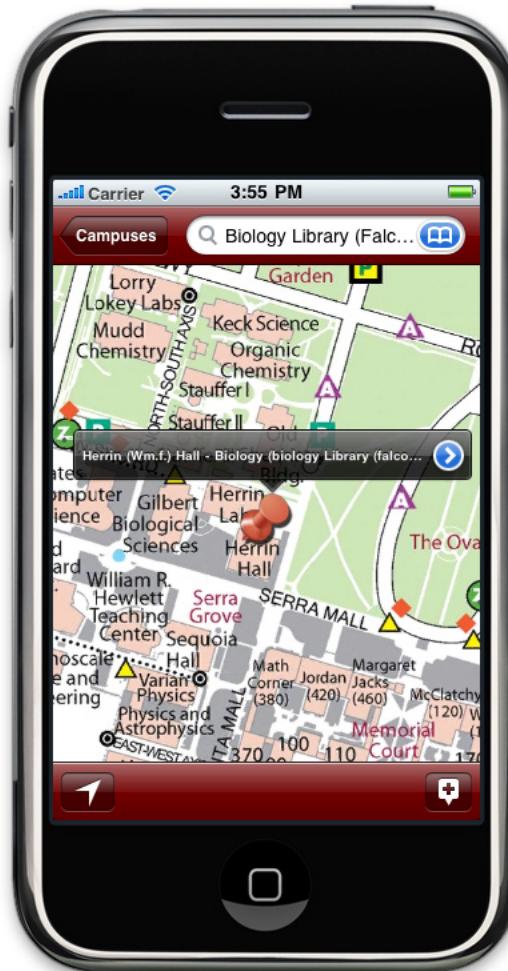
Maps

There are two options for our maps application:



Option 1: Mapkit

OR



Option 2: Custom

Map image:

- Option 1 (recommended for Phase I):** "MapKit" - This option uses map images from Google Maps, ensuring perfectly to-scale results and Google-quality detail of your campus (check Google Maps to see how your campus is represented). This option is highly recommended when Google has an acceptable level of detail for building names on your campus, especially since it requires the least amount of effort from your institution to implement. Please note that the MapKit option does not support plug-ins (i.e. Places, Transit, Tours) due to limitations of the iOS MapKit. If you would rather use your institution's custom map, please refer to Option 2.

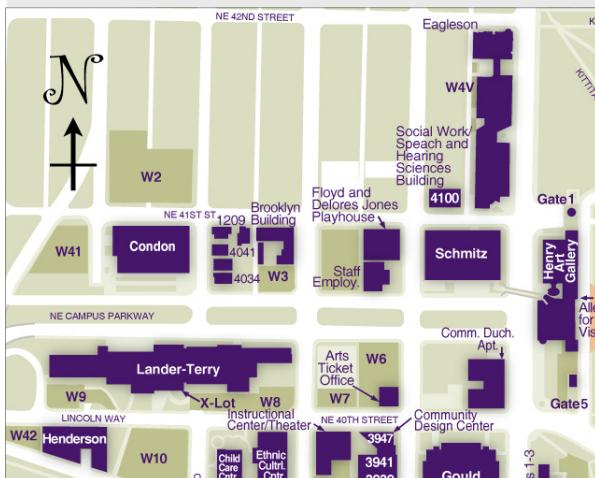
- **Option 2:** "Custom" - Recommended only if an aesthetically pleasing map image meeting the following specifications is readily available.

Custom Map Requirements:

- An image of your school's campus map which is:
 - northward facing
 - planimetric view (i.e. 90 degrees to the ground)
 - to scale

Provide both:

- 
- vector format (e.g. PDF, Illustrator file.)
 - image file (lossless format, e.g. GIF or PNG)
 - recommended: 2000x2000 - 4000x4000 px (larger sizes only for simple maps)
 - preferred: as small as possible while all labels and details are clearly visible
 - width and height dimensions divisible by 4 (e.g. 4016x4020 pixels)



ACCEPTABLE



UNACCEPTABLE

Map Boundaries:

- Three geographical points are needed for both Map Image options.

For MapKit, the corner points should describe the desired "initial view" of the Maps app (what shows by default when Maps is launched).

For Custom, the corner points should be the corner points of your provided campus map.

Please enter the decimal geocode coordinates in the following fields:

Upper left corner:

Latitude:

Longitude:

Bottom right corner:

Latitude:

Longitude:

Center:

Latitude:

Longitude:

e.g. 56.7777

e.g. 87.6666

Access to building/location data:

- Option 1 (preferred):** A web-service that:
 - returns locations with data based on a search query (see *Example M1* below) and
 - can return a list with the name of every building (names only)

- Option 2:** A data extract (i.e. XML (preferred), CSV, tab-delimited) hosted on your web server

Data (via the web-service or data extract) which includes the following attributes:

- Required:
- name
 - unique buildingID
 - geocode latitude and longitude in decimal format

We can handle any key-value pair to provide location information in Maps:

- Optional:
- image URL (ideally street-level, approx. 320x200 pixel resolution)
 - aliases
 - address
 - others (specify):
e.g. handicap accessibility, departments

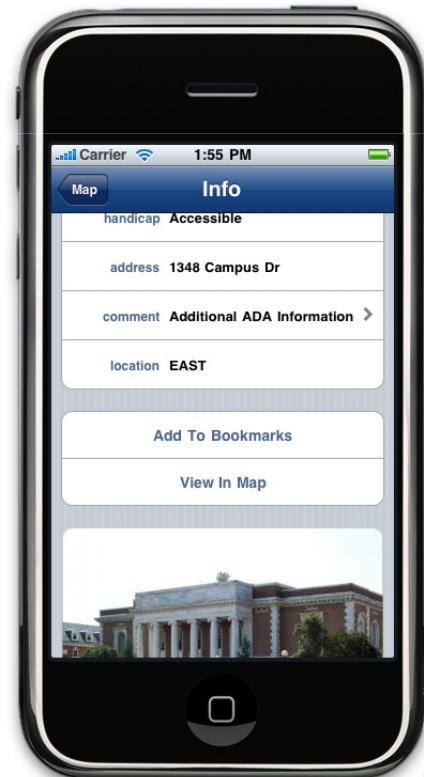
Note: Finalizing the GPS-based features may require additional correspondence due to the location requirements of testing.

Example M1 - Query and Results for building info web-service

Query: <http://school.edu/maps/search?q=M>

Results:

```
<?xml version="1.0" encoding="UTF-8"?>
<Locations>
  <location>
    <name>Matheson</name>
    <location_code>math-04</location_code>
    <geocode>
      <lat>56.777</lat>
      <lon>78.99993</lon>
    </geocode>
    <image_url>http://school.edu/locationimages/lib4.jpg</image_url>
    <description>Matheson is home to the Mathemat...</description>
    <handicap>Accessible</handicap>
    <nextattribute>Attributes each within a tag.</nextattribute>
    <rooms>
      <room>Lecture 205</room>
      <room>204a</room>
      ...
    </rooms>
    <organizations>
      <organization>Math Department</organization>
      <organization>Physics Department</organization>
      <organization>Statistics Department</organization>
    ...
    </organizations>
    <aliases>
      <alias>Math</alias>
      <alias>Math Department</alias>
    </aliases>
  </location>
</Locations>
```



```
...  
</aliases>  
</location>  
<location>  
...  
</location>  
</Locations>
```

If using a web service, please enter the URL with a sample search query below.

Please paste excerpted data for three (3) buildings below for easy viewing and reference:

Additional Notes for Maps:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):

Application Plug-Ins

The Transit, Places, and Tours apps have been incorporated into the Maps application as optional plug-ins.

They are accessed from the Maps application as shown on the right.



Transit

The Transit application uses three categories of data:

- 1) Bus schedule data (stops, routes, etc) in Google Transit Format. (Note for convenience that data in this format can be reused to supply to Google for inclusion in Google Maps.) The specifications for this format are extensively documented at this link:

http://code.google.com/transit/spec/transit_feed_specification.html

The required files are:

- stops.txt
- routes.txt
- trips.txt
- stop_times.txt
- calendar.txt
- frequencies.txt (Optional) - May make stop_times.txt easier to specify.



- 2) Bus route data encoded using our Tool. The Tool is an iPhone application we wrote which will allow you to define, by drawing, the different bus routes on your campus map. Please send an email to mobile_implementations@blackboard.com to obtain the Tool and instructions. After plotting the routes with the Tool, email the .plist files generated by the Tool to mobile_implementations@blackboard.com. Please be aware that we will only be able to plot the bus routes that fit within the campus map provided for the Maps application. For example, if your campus has a bus route that extends from the center of campus to a location that is so far off campus that it is no longer on the campus map provided, the full route will not be visible within the application.

- 3) (Optional) If live GPS data is available and live locations of buses are desired, provide a web service which provides the current locations of the buses. The output of the web service should be XML conforming to the format in Example T1 below.

If using a web service, please enter the URL with a sample query below.

e.g. http://school.edu/transit/bus_locations?q=route_01

Example T1 - Transit XML bus locations result for the query above

```
<?xml version="1.0" encoding="ISO-8859-1"?>
```

```
<data>
  <bus>
    <route_id>026</route_id>
    <geocode>
      <lat>56.777</lat>
      <lon>78.99993</lon>
    </geocode>
  </bus>
  <bus>
    ...
  </bus>
  ...
</data>
```

Additional Notes for Transit:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):





Places

- An XML or equivalent data source providing category information
 - for each category, the children categories or link to category content should be included
(See *Example P1* for sample category feed data)
- For each category: An XML or equivalent data source providing summary information for each place within that category (See *Example P2* for sample data)
 - the information contained in this feed should contain attributes in key-value pairs:

Required:

- | | |
|--|---|
| <input type="checkbox"/> open/closed status (e.g. true) | <input type="checkbox"/> name (e.g. Cafe Viv) |
| <input type="checkbox"/> building ID (matching ID from Maps data) | <input type="checkbox"/> location (e.g. Frist Center) |
| <input type="checkbox"/> status string (e.g. "Open," "Low Ink," etc) | <input type="checkbox"/> decimal latitude and longitude |
| <input type="checkbox"/> other (specify): <input type="text"/> | |

- For each place: An XML or equivalent data source providing all desired information
(See *Example P2* for sample format)
 - the information contained in this feed should contain attributes in key-value pairs:

Recommended:

- | | |
|---|--|
| <input type="checkbox"/> open hours (by day of week) | <input type="checkbox"/> owner/operator |
| <input type="checkbox"/> payment methods (e.g. credit card, student ID) | <input type="checkbox"/> additional info URL |
| <input type="checkbox"/> product selection (e.g. menu) | |
| <input type="checkbox"/> other (specify): <input type="text"/> | |

Example P1 - Places XML categories feed

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<data>
  <TCCategory>
    <name>Dining</name>
    <children>
      <TCCategory>
        <name>Cuisine</name>
        <children>
          <TCCategory>
            <name>Cafe</name>
            <children/>
            <category_id>https://school.edu/places.xml?tag=cafe</category_id>
          </TCCategory>
          <TCCategory>
            <name>Chinese</name>
            <children/>
            <category_id>https://school.edu/places.xml?tags=chinese</category_id>
          </TCCategory>
        </children>
        <category_id>https://school.edu/places.xml?tags=dining</category_id>
      </TCCategory>
      <TCCategory>
        ...
        <TCCategory>
          <children>
            </TCCategory>
          </children>
        </TCCategory>
      </TCCategory>
    </children>
  </TCCategory>
</data>
```

Please paste an excerpted sample of your Places category data below for easy viewing and reference:

Example P2 - XML data for the places within a given category

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<data>
    <PLPlace>
        <open>true</open>
        <name>Alpine Atrium</name>
        <times/>
        <building_id>7791</building_id>
        <latitude>36.0009882104</latitude>
        <longitude>-78.9411939968</longitude>
        <location>Bryan Center</location>
        <id>10000</id>
        <openCloseString>Open</openCloseString>
    </PLPlace>
    <PLPlace>
        <open>true</open>
        <name>Armadillo Grill</name>
        ...
        <id>10001</id>
        <openCloseString>Closed</openCloseString>
    </PLPlace>
</data>
```

Please paste an excerpted sample of your places within a category data below for easy viewing and reference:

Please paste an excerpted sample of the detail data for three (3) places below for easy viewing and reference:

Additional Notes for Places:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):





Tours

The Tours application requires:

- A single .xls or .csv file that contains one or many tours. Each row in the file represents a stop on a tour. The file should have the following fields:

Required:

- tour name (e.g., Main Campus Tour)
- tour code (e.g., MAIN)
- stop name (e.g., Student Union Building)
- stop ID (i.e., sequential stop number on the tour)
- decimal latitude and longitude

Optional:

- address
- image URL (max. 1 per stop)
- sound URL (max. 1 per stop)
- video URL (max. 1 per stop)
- additional info URL
- description (e.g., Main building for student activities)
- other (specify):

Example:

tourName	tourCode	stopName	stopID	latitude	longitude
Main Campus Tour	MAIN	Western Hall	1	37.79642	-122.403106
Main Campus Tour	MAIN	Admissions	2	37.795895	-122.403200
Main Campus Tour	MAIN	Student Union	3	37.795880	-122.403300
Main Campus Tour	MAIN	Stacks	4	37.795965	-122.500897
Main Campus Tour	MAIN	Historic Statue	5	37.796808	-122.567038
East Campus Tour	EAST	Health Center	1	38.900234	-116.124098
East Campus Tour	EAST	Residence Hall	2	38.895924	-116.124234
East Campus Tour	EAST	Historic Landmark	3	38.900210	-116.124492

address	imageURL	soundURL	videoURL	description
123 Main St.	imageURL1	soundURL1	videoURL1	The central location for all of campus
100 College Ave.	imageURL2	soundURL2	videoURL2	The main admissions buildings
33 Campus Rd.	imageURL3	soundURL3	videoURL3	Our main building for student activities
111 Stadium Rd.	imageURL4	soundURL4	videoURL4	
	imageURL5	soundURL5	videoURL5	
	imageURL6	soundURL6	videoURL6	
	imageURL7	soundURL7	videoURL7	
	imageURL8	soundURL8	videoURL8	

- Tour route data encoded using our Tool.

The Tool is an iPhone application we wrote which will allow you to define, by drawing, the different Tour routes on your campus map.

Please send an email to mobile_implementations@blackboard.com with "Mobile Central Tours Tool request" in the subject line to obtain the Tool and instructions.

After plotting the routes with the Tool, email the .plist files generated by the Tool to mobile_implementations@blackboard.com with "Mobile Central Tours Tool .plist files" in the subject line.

Please be aware that we will only be able to plot tour routes that fit within the campus map provided for the Maps application. For example, if your campus has a tour route that extends from the center of campus to a location that is so far off campus that it is no longer on the campus map provided, the full route will not be visible from within the application.

Additional Notes for Tours:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Directory

- Option 1 (preferred): Public LDAP directory
- Option 2: Existing directory web-service
- Option 3: Directory extract (CSV or XML)

Option 1 (preferred): Using a public LDAP directory

- URL address:
e.g. ldap://ldap.school.edu
- Base Domain Name for our search:
e.g. cn = People, dc = SchoolName, dc = EDU
- the best attribute to use as a unique identifier for a person (e.g. uid):
- the best attribute to use for LDAP searches (e.g. cn or displayName):
- the max # of search results for your LDAP directory:
- the attributes of a person that we display to the end user (enter below)

Optional - Advanced Search of LDAP directory:

For each attribute that you would like to be searchable in the advanced search:

- indicate which search options should be available (contains, starts with, ends with, matches exactly, and sounds-like)
- verify that the searched attribute has the appropriate indexes (contains, starts with and ends with require substring indexes, matches exactly requires an equality index, and sounds-like requires a Soundex index)
- the attributes of a person that we display to the end user (enter below)

e.g. displayName (equality, substring (contains, starts with, ends with), Soundex), fax, ...

- Does your LDAP server accept an anonymous bind?
 - Yes.
 - No. If not, please provide a test username and password below:
Username: Password:
- Is your LDAP directory behind a firewall? Yes. No.

Option 2: Using an existing directory web-service with the following functions:

- A search function that returns the name and unique ID of all the users that match that particular query (i.e. "Smith") (see Example D1 below)

- Please paste a sample search query below:

e.g. http://www.school.edu/directory/search.xml?=Smith

- A function that returns the details for a particular user ID (see Example D2 below)

- Please paste a sample user detail query below:

e.g. Query: http://school.edu/directory/detail.xml?uid=33543



Option 2 (cont'd):

Please paste excerpted data from a multi-result search below for easy viewing and reference:

Example D1 - Results for query "Smith"

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
    <result>
        <first_name>Jane</first_name>
        <middle_name>A</middle_name>
        <last_name>Smith</last_name>
        <id>22234</id>
    </result>
    <result>
        <first_name>Ken</first_name>
        <middle_name>Charles</middle_name>
        <last_name>Smith</last_name>
        <id>33543</id>
    </result>
</results>
```

Please paste the user detail results for three (3) users below for easy viewing and reference:

Example D2 - Results for user "33543" detail

```
<?xml version="1.0" encoding="UTF-8"?>
<user_detail>
    <first_name>Ken</first_name>
    <middle_name>Charles</middle_name>
    <last_name>Smith</last_name>
    <title>Director of Athletics Operations</title>
    <phone>310-555-5555</phone>
    <fax>310-666-6666</fax>
    <next_attribute>affiliations, organizations, address, etc, each within their own tags</next_attribute>
</user_detail>
```

**Option 3: A data extract (i.e. XML (preferred), CSV, tab-delimited) hosted on your web server
Data which conforms to the format in Example D3 below, and includes the following attributes:**

- Required: name
 unique ID (uid)

We can handle any key-value pair to provide information in Directory:

- Optional: phone number
 email address
 office or dorm address
 others (please specify all attributes which should be displayed to the end user):

e.g. fax number, department

Option 3 (cont'd):

Please paste excerpted data from your directory extract below for easy viewing and reference:

Example D3 - Directory extract XML

```
<persons>
  <person>
    <uid>551351321</uid>
    <lastName>Bernstein</lastName>
    <firstName>Joseph</firstName>
    <middleName>Harold</middleName>
    <details>
      <phone>222-222-2222</phone>
      <email>joe@terriblyclever.com</email>
      <title>General</title>
    </details>
  </person>
  <person>
    <uid>>521456322</uid>
    <lastName>Beykpour</lastName>
    <firstName>Kayvon</firstName>
    <middleName/>
    <details>
      <phone>111-111-1111</phone>
      <email>kayvon@terriblyclever.com</email>
      <title>Head Baker</title>
      <department>Baked Goods</department>
    </details>
  </person>
</persons>
```

Additional Notes for Directory:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Athletics

- Option 1: CSTV or JumpTV
- Option 2: Custom XML feeds

Option 1: CSTV or JumpTV

If your university is a CSTV or JumpTV school, we simply need to know the URL for your athletics website.

- Please enter the URL address for your athletics website:

e.g. CSTV: <http://gostanford.cstv.com/data/stan-event-info-2009.xml>
JumpTV: <http://www.goduke.com>

Option 2: The URL addresses for the XML feeds that deliver athletic news, schedules, and scores.

- the feed items should contain tags indicating which team the information is relevant to

Please enter the URL addresses needed to access your athletics information:
e.g. <http://school.edu/athletics/news.xml>

- News:

- Schedules:

- Scores:

Please paste excerpted samples of your athletics feeds in the corresponding boxes below.

- Athletics News:

e.g.

```
<article>
  <team>mens_tennis</team>
  <title>Michael Yani Qualifies For U.S. Open</title>
  <description>Yani will compete in...</description>
  <image_url>http://school.edu/yani.jpg</image_url>
  <link>http://school.edu/athletics/yani.html</link>
  <date>2009-08-30 00:15:00</date>
</article>
```

- Athletics Schedules:

e.g.

```
<event>
  <team>womens_lacrosse</team>
  <title>Duke at Pfeiffer</title>
  <date>2010-08-31 19:00:00</date>
  <home>Pfeiffer</home>
  <visitor>Duke</visitor>
  <homeVisitor>V</homeVisitor>
  <location>Durham, N.C.</location>
</event>
```



Option 2 (cont'd):

(Please paste excerpted samples of your athletics feeds in the corresponding boxes below.)

Athletics Scores:

e.g.

<score>

```
<team>mens_baseball</team>
<homeScore>4</homeScore>
<awayScore>1</awayScore>
<stringScore>L, 4-1</stringScore>
<isNumeric>true</isNumeric>
<winLoss>L</winLoss>
<title>Duke at Tennessee</title>
<date>2010-05-09 15:00:00</date>
<home>Tennessee</home>
<visitor>DUKE</visitor>
<homeVisitor>V</homeVisitor>
<location>Knoxville, Tenn.</location>
</score>
```

Additional Notes for Athletics:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc)



Courses

Our new Courses structure allows for the hierarchy structure to be customized with as many or as few levels as desired. Provide information about the desired hierarchy structure below.

Please use the below box to include the categories/hierarchy information and both the display name and shortcode keys for each level (see Example C1 below - please include one example showing the levels with the key names, and another example with one real example from your data (as in bold)).

Example C1 - Hierarchy information (note >>...> denotes category level):

```
> "level 1 display name key" (level 1 shortcode key)
    >> "level 2 display name key" (level 2 shortcode)
        >>...> "level n display name key" (level n shortcode)
            >>...> course list
                >>...> individual course detail

> "school_name" (school_code)
    >> "major_name" (major_code)
        >>...> "concentration_name" (concentration_code)
            >>...> course list
                >>...> individual course detail

> "Medical School" (med)
    >> "Surgery" (srg)
        >>...> "Vascular Surgery" (vsc)
            >>...> course list
                >>...> individual course detail
```



- Option 1: If you have a web-service which offers access to all desired course information, notify us and we will work with you to use that web-service for the Courses app.
- Option 2: A database extract from the course management system

Option 2: Database extract

- Option 2a (preferred): The extract can be hosted on your server (behind simple authentication as desired)

- Option 2b: We can provide you with an SSH account to use to transfer the extract

A database extract (ideally CSV or XLS) of the course catalog from the

- course management system (e.g. PeopleSoft/Banner/Blackboard, home-grown solution etc.) that includes course information for any number of terms which conforms to the following specifications (see *Example C1* below):

- Each row in this extract should have the following attributes, provided as key-value pairs:

Required:

- | | | | |
|------------------|--|--|-------------------|
| sch, dept | <input type="checkbox"/> display names for every level in desired hierarchy
(e.g. English, Law, Electrical Engineering) | <input type="checkbox"/> short codes for every level in hierarchy
(e.g. ENG, LAW, ELE...) | EN.600.666 |
|------------------|--|--|-------------------|

- | | | |
|--|--|--|
| | <input type="checkbox"/> term name (e.g. Spring 2009, Fall 2010) | <input type="checkbox"/> term code (e.g. SP09, FA10) |
|--|--|--|

600.666

- | | | |
|--|---|--|
| | <input type="checkbox"/> course title (e.g. Philosophy of Religion) | <input type="checkbox"/> catalog number (e.g. 101, 201, ...) |
|--|---|--|

- | | | |
|----------------------|--|----------------|
| SSS_SectionID | <input type="checkbox"/> course number (unique section code, e.g. 55109) | 600.666 |
|----------------------|--|----------------|

Recommended:

- | | | |
|-----------------|---|--|
| Meetings | <input type="checkbox"/> start time (HH:MM GMT-HH:MM) | <input type="checkbox"/> day (e.g. MON, THU) |
|-----------------|---|--|

- | | | |
|--|--|--|
| | <input type="checkbox"/> start date (YYYY-MM-DD) | <input type="checkbox"/> end time (e.g. 09:00:00 -08:00) |
|--|--|--|

- | | | |
|--|---|---|
| | <input type="checkbox"/> type name (e.g. Lecture, Discussion, Lab, ...) | <input type="checkbox"/> end date (e.g. 2009-12-20) |
|--|---|---|

- | | | |
|--|--|---|
| | <input type="checkbox"/> instructor first name (e.g. John) | <input type="checkbox"/> type code (e.g. LEC, DIS, LAB) |
|--|--|---|

- | | | |
|--|--|--|
| | <input type="checkbox"/> instructor unique ID (corresponding to unique ID from Directory data, e.g. 33543) | <input type="checkbox"/> instructor last name (e.g. Smith) |
|--|--|--|

- | | | |
|--|--|--|
| | <input type="checkbox"/> location name (e.g. McCosh) | <input type="checkbox"/> room (e.g. 202) |
|--|--|--|

- | | |
|--------------|---|
| DIY → | <input type="checkbox"/> location code (corresponding to buildingID data from Maps application, e.g. mcsh_01) |
|--------------|---|

Optional:

You are welcome to give us more attributes than are listed above.

- | | |
|--|---|
| <input type="checkbox"/> enrollment capacity | <input type="checkbox"/> current enrolled total |
|--|---|

- | | |
|--------------------------------|--|
| <input type="checkbox"/> units | <input type="checkbox"/> class_section |
|--------------------------------|--|

- | | |
|---|----------------------|
| <input type="checkbox"/> other (specify): | <input type="text"/> |
|---|----------------------|

- Courses with more than one value for a given key (e.g. are held on multiple days of the week, have more than one instructor, etc) are represented with multiple rows in the extract with all other attributes the same but with those specific changes reflected (see *Example C1* below)

- If there are any particular display characteristics that would benefit your course structure or data, please enter the relevant details below so that we can consider possible customizations (e.g. grouped vs. flat display of course sections).

- TODO** Please enter the URL pointing to the Courses data extract below:

e.g. http://school.edu/registrar/courses_extract.csv

Example C1 - Course data:

SectionDescription	school_name	school_code	subject_name	subject_code	term_name	term_code	course_title	catalog_number	course_number	class_section
This two...	Business & Public Administration	BGT	Accounting	ACCT	Fall 2009	09/FA	Principles of Accounting I	101	55910	1
	Engineering and Applied Sciences	EAS	Electrical Engineering	ELEC	Fall 2009	09/FA	Systems Design and Analysis	302	60723	1

Location	units	enroll_cap	enroll_tot	instructor_lastname	instructor_firstname	start_date	end_date	day	start_time	end_time	type_name	type_code	building_name	b u i l d - ing_code	room_number
Homewood	3	35	22	Connelly	Phillip	2009-09-03	2009-12-21	MON,WED,FRI	12:30	13:30	Lecture	LEC	Willis	will00	315
	5	40	32	Dickinson	Bradley	2009-09-03	2009-12-21	TUE,THU	09:00	10:00	Lecture	LEC	McCosh	mcs00	202

MaxCapacity
 TotalEnrolled

StartDate EndDate

InstructionMethod

Building

Room

Please paste an excerpted sample of the data for three (3) courses below for easy viewing and reference.

Additional Notes for Courses:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc)



News

Provide information about the desired hierarchy and the URIs for each feed to be included:

- for support of multiple categories, include structure information about the categories and hierarchy below
- for **each** feed, specify "Simple" (RSS) or "Enhanced" (XML or DB) type (see next page for the difference between Simple and Enhanced types)

Please use the below box to include the categories/hierarchy information and the URIs and types for each news feed (see Example N1 below):

Example N1 - Hierarchy information (note >>...> denotes category level):

```
> "Top News"
    >> "News Releases": http://school.edu/news/topnews/news_releases.rss
        - Type: Simple
    >> "Campus News": http://school.edu/news/topnews/campus_news.rss
        - Type: Enhanced
> "CategoryName"
    >> "Sub-categoryName"
        >>> "Sub-sub-categoryName": URI_for_feed
            - Type: Simple_OR_Enhanced
    >> "Sub-categoryName"
```



For each new feed, you can choose one of the two following options for article view:

Option 1 (Recommended): Enhanced (XML or DB) - This option offers an enhanced news article view without opening a browser window to view the original site (see screenshots below).

- Web-service-based XML feeds** which conforms to the format in Example N2 on the next page, and include the following attributes:

- Database** which includes the following attributes as separate columns:

Required:	<input type="checkbox"/> title	<input type="checkbox"/> body (can have sections with headings)
	<input type="checkbox"/> date	<input type="checkbox"/> URL
Optional:	<input type="checkbox"/> subtitle	<input type="checkbox"/> sections with headings (in body)
	<input type="checkbox"/> images	<input type="checkbox"/> author
	<input type="checkbox"/> location	<input type="checkbox"/> others (specify below):

If providing XML feeds, please paste excerpted data from your XML feed below for easy viewing and reference (see Example N2 on the next page for sample formatting and syntax):

Option 2: Simple (RSS)

This option is good for news feeds where simple RSS is the only available option, but where possible we recommend the much more aesthetically pleasing, native, "Enhanced" option below.

- valid RSS feed for each news channel with nodes for each attribute



e.g. **Example N2 - Sample XML for Enhanced option:**

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<article>
    <title>Traveling to Sydney</title>
    <subtitle>July 27, 2010 2:35 p.m. PST</subtitle>
    <body>
        <section>
            <heading>Well worth the flight</heading>
            <text>Traveling from the West Coast to Australia is not a short trip . . . </text>
        </section>
        <section>
            <heading>Exploring the City</heading>
            <text>Exploring Sydney and its . . . should be on your bucket list. </text>
        </section>
    </body>
    <images>
        <image>http://dl.dropbox.com/u/3362761/pics/sunset.jpg</image>
        ...
        <image>http://dl.dropbox.com/u/3362761/pics/Opera_House.jpg</image>
    </images>
    <details>
        <detail>
            <key>Author</key>
            <value>Brian Tolkin</value>
        </detail>
        <detail>
            <key>Date</key>
            <value>July 27, 2010 5:35 p.m. PST</value>
        </detail>
        <detail>
            <key>Location</key>
            <value>San Francisco, CA</value>
        </detail>
    </details>
    <url>http://www.news.monument.com/2010/TRAVEL/07/27/sydney/index.html</url>
</article>
```

Additional Notes for News:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc)



Videos

- Option 1: YouTube and category XML feeds
- Option 2: Institution hosted web-service
- Option 3: Data file with all category and video information



Option 1: YouTube and category XML feeds

- YouTube channels
 - for each YouTube category, provide either a YouTube username or playlist URL below
- other institution hosted videos with an XML feed for each category
 - provide the link to the XML feed for each desired category below

Option 2: institution hosted web-service

- an institution hosted web-service which supports the following functions:
 - request for all categories (e.g. <http://school.edu/videos/categories.xml>)
 - Provide a sample request here:
 - request for all videos within a category (e.g. http://school.edu/videos/videos.xml?category_id=32)
 - Provide a sample request here:
 - request for all videos that match a query (e.g. <http://school.edu/videos/search.xml?q=amazing>)
 - Provide a sample request here:

(See Examples V1 and V2 below for desired results format)

Option 3: Data file with all category and video information

- a data file in an equitable format (e.g. CSV, XML) which contains all information for both categories and videos together (see Example V3 below for desired format)

For all institution-hosted videos:

- video files should be hinted (streamable)
- videos must be formatted to be compatible with iPods and other mobile devices

This can be accomplished by encoding them so they are "iPod compatible." For more information, navigate to the heading "Formatting Video for the iPod or Apple TV" on page 9 of this document:

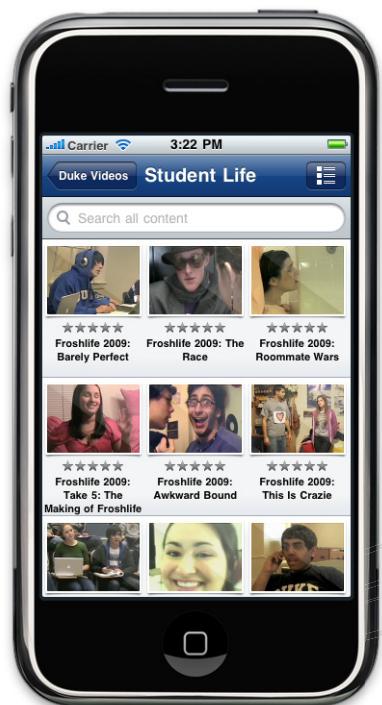
http://images.apple.com/support/itunes_u/docs/iTunes_U_Creating_Content.pdf

For all options:

Please use the below box to include the categories/hierarchy information and the access info for each category (see example). For Option 2, include the category IDs. For Option 3, include a URL at the top pointing to the hosted data file:

Example hierarchy information (note >>...> denotes category level):

```
> "Business"
  >> "Research": http://school.edu/videos/business/research.xml
  >> "Distinguished Speakers Series": YouTube user: "MonumentU"
  >> ...
> "CategoryName"
  >> "Sub-categoryName"
    >>> "Sub-sub-categoryName": URI\_for\_feed
  >> "Sub-categoryName": YouTube user: "youtube_username"
```



Example V1 - XML results for categories request:

```
<?xml version="1.0" encoding="UTF-8"?>
<categories>
    <category>
        <category_id>12</category_id>
        <name>Undergraduate Business School Videos</name>
        <description>Videos from the undergraduate program of the Distinguished Business...</description>
        <thumbnail_url>http://school.edu/images/cat_thumb.jpg</thumbnail_url>
        <children>
            <category>
                <category_name>First Week</category_name>
                <category_id>31</category_id>
                ...
            </category>
            <category>
                <category_name>Guest Speakers</category_name>
                <category_id>32</category_id>
                <children>
                    ...
                </children>
            </category>
        </children>
    </category>
    <category>
        ...
    </category>
</categories>
```

Please paste an excerpted sample of the XML data from a category request below for easy viewing and reference:

Example V2 - XML data for videos matching request (category or search):

```
<?xml version="1.0" encoding="UTF-8"?>
<videos>
    <video>
        <video_id>154</video_id>
        <title>My New Amazing Movie!</title>
        <author>Terriblyclever Design</author>
        <description>This is, without a doubt, the best video ever made.</description>
        <duration>2:36</duration>
        <content_url>http://terriblyclever.com/My_New_Amazing_Movie.m4v</content_url>
        <thumbnail_url></thumbnail_url>
        <category>Student Life</category>
        <publish_date>Tue, 25 Aug 2009 11:07:14 -0700</publish_date>
    </video>
</videos>
```

Please paste an excerpted sample of the XML data from a videos request below for easy viewing and reference:

Example V3 - Data for data file (note videos information is embedded in each category):

```

<?xml version="1.0" encoding="UTF-8"?>
<categories>
    <category>
        <category_id>12</category_id>
        <name>Undergraduate Business School Videos</name>
        <description>Videos from the undergraduate program of the Distinguished Business...</description>
        <thumbnail_url>http://school.edu/images/cat_thumb.jpg</thumbnail_url>
        <children>
            <category>
                <category_name>First Week</category_name>
                <category_id>31</category_id>
                ...
                <videos>
                    <video>
                        <video_id>154</video_id>
                        <title>My New Amazing Movie!</title>
                        <author>Terriblyclever Design</author>
                        <description>This is, without a doubt, the best video ever made</description>
                        <duration>2:36</duration>
                        <content_url>http://terriblyclever.com/My_Amazing_Movie.m4v</content_url>
                        <thumbnail_url></thumbnail_url>
                        <category>Student Life</category>
                        <publish_date>Tue, 25 Aug 2009 11:07:14 -0700</publish_date>
                    </video>
                    <video>
                        ...
                    </video>
                </videos>
            </category>
            <category>
                <category_name>Guest Speakers</category_name>
                <category_id>32</category_id>
                <children>
                    ...
                </children>
            </category>
        </children>
    </category>
    ...
</categories>

```

Please paste an excerpted sample of the data from the data file below for easy viewing and reference:

Additional Notes for Videos:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Images

The Images application will allow users to search, view, and use images provided via a Flickr account and/or hosted on your institution's server.

Option 1 (preferred): Flickr

Option 2: Hosted images with web-service, XML feed, or data extract for info

For all options:

The Images application can support both of the above options simultaneously, offering images to the end user in hierarchical categories, each of which can use either of these options. Please use the box below to include the categories/hierarchy information for each set of images (see example below). For Option 1, include a link to the desired image set and the applicable Flickr account API key.

Example hierarchy information (note >>...> denotes category level):

> "Campus Images"

>> "Student Life"

- Flickr link: http://www.flickr.com/photos/monument_u/sets/72157624171454879/
- Flickr API key: dac5e6ac820e0ce4cc7e83da228c165d

>> "Buildings and Scenery": Option 2

> "CategoryName"

>> "Sub-categoryName"

>>> "Sub-sub-categoryName"

- (if Option 1) Flickr link: <flickr_link>

- (if Option 1) Flickr API key: <flickr_API_key>

>> "Sub-categoryName": Option 2



Option 1 (preferred): Flickr

For each set, include the following information in the category information box above.

- link to Flickr image set (e.g. http://www.flickr.com/photos/user/sets/set_number)
 - applicable Flickr account API key (e.g. dac5e6ac820e0ce4cc7e83da228c165d)
- The API key enables access to >25 images and lower resolution images when necessary.

Option 2: Hosted images with web-service, XML feed, or data extract for image information

Our images application will use provided information to search for and link to the original images hosted on your institution's server. The requirements are:

- images hosted on your institution's server
- thumbnail images (approx. 100x100 px) hosted on your institution's server
- access to image data (and category data, for Options 2a and 2b)

Option 2 (cont'd):

- Option 2a (preferred for Option 2):** a web-service (ideally XML based) that supports the following requests:

- request for all categories (e.g. http://school.edu/images/categories.xml)
 - Provide a sample request here:
 - request for all images within a category (e.g. http://school.edu/images/pics.xml?category_id=32)
 - Provide a sample request here:
 - request for images that match a certain query (e.g. http://school.edu/images/search.xml?q=mummy)
 - Provide a sample request here:
- (see *Example I1* below for desired results format)

- Option 2b:** a data-extract in an equitable format (e.g. CSV, XML)

- Option 2c:** an XML feed or extract for uncategorized images (see *Example I2* for format)

For all Options 2a, 2b, and 2c:

- Data (via the web-service or data extract) which includes the following attributes:

Required: title thumbnail URL image URL category (for Options 1 and 2)

Optional: description copyright detail URL

other (specify):

Example I1 - XML results for categories request:

```
<?xml version="1.0" encoding="UTF-8"?>
<categories>
  <PHCategory>
    <category_id>665</category_id>
    <name>Art Library Collections</name>
    <description>An exhaustive collection of all the digital images collected by the art library.</description>
    <thumbnail_url>http://school.edu/images/cat_thumb.jpg</thumbnail_url>
    <children>
      <PHCategory>
        <category_name>1960: A year in photos</category_name>
        <category_id>3211</category_id>
        ...
      </PHCategory>
      <PHCategory>
        <category_name>A Decade of Turmoil</category_name>
        <category_id>4541</category_id>
        ...
      </PHCategory>
    </children>
  </PHCategory>
  <PHCategory>
    ...
  </PHCategory>
</categories>
```

Option 2 (cont'd):

Please paste an excerpted sample of the XML data from a category request below for easy viewing and reference:

Example I2 - XML data for images matching request (category or search):

```
<?xml version="1.0" encoding="UTF-8"?>
<photos>
    <photo>
        <photo_id>6542</photo_id>
        <category_id>3211</category_id>
        <title>"Gee Mummy, but you're pretty!" </title>
        <description>A sample photo from...</description>
        <thumbnailURL>http://school.edu/images/thumb.jpeg</thumbnailURL>
        <contentURL>http://school.edu/images/image.jpeg</contentURL>
        <copyrightURL>http://school.edu/images/#copy</copyrightURL>
        <detailURL>http://school.edu/images/group.BH1288</detailURL>
    </photo>
    ...
</photos>
```

Please paste an excerpted sample of the XML data from an images request below for easy viewing and reference:

Additional Notes for Images:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Events

- A web-service/API or XML feed that taps into the schools event database that:
 - supports events-in-range requests: the ability to see the events between a given start date and end date.
 - contains the following attributes for each event, provided as key-value pairs:

Note: We strongly discourage the use of RSS, as it is not an adequate format for displaying events. However, if it is the only format available, please send us an email and we will see what we can do. Please be aware that it is difficult to create a full fledged event system without the necessary information.

Required:

<input type="checkbox"/> event title (e.g. FristFest!)	<input type="checkbox"/> end date (e.g. 2009-12-20)
<input type="checkbox"/> start date (YYYY-MM-DD)	<input type="checkbox"/> end time (e.g. 09:00:00 -08:00)
<input type="checkbox"/> start time (HH:MM GMT-HH:MM)	<input type="checkbox"/> all day tag (e.g. 1)

Recommended:

<input type="checkbox"/> event description (e.g. Celebration of the year!)	<input type="checkbox"/> contact email (e.g. contact@school.edu)
<input type="checkbox"/> location name (e.g. McCosh)	<input type="checkbox"/> room (e.g. 202)
<input type="checkbox"/> buildingID (corresponding to buildingID data from Maps application, e.g. mcsch_01)	
<input type="checkbox"/> category name (e.g. Campus Life)	<input type="checkbox"/> category ID (e.g. 13)
<input type="checkbox"/> instances info (see example below)	<input type="checkbox"/> duration (in decimal hours) (e.g. 1.25)
<input type="checkbox"/> contact first name (e.g. John)	<input type="checkbox"/> contact last name (e.g. Smith)
<input type="checkbox"/> contact unique ID if available (corresponding to unique ID from Directory data, e.g. 33543)	
<input type="checkbox"/> contact phone number (e.g. 555-555-5555)	<input type="checkbox"/> unique event ID number
<input type="checkbox"/> admission (e.g. FREE)	

- Please provide an example of a proper events-in-range request with description as necessary in the field below:

e.g. http://school.edu/events/?start=2009-09-30_00:00:00&end=2009-10-31_00:00:00

Example Events feed data:

```
<?xml version="1.0" encoding="utf-8"?>
<Events>
  <Event>
    <eventID>17081</eventID>
    <title>FristFest!</title>
    <description>Welcome to the 2009 FristFest spring celebration!</description>
    <eventUrl>http://school.edu/events09/</eventUrl>
    <locationName>Frist Campus Center</locationName>
    <locationID>frst01</locationID>
    <startDate>2009-01-26</startDate>
    <startTime>09:00:00 GMT-08:00</startTime>
    <endDate>2009-01-27</endDate>
    <endTime>10:00:00 GMT-08:00</endTime>
    <allDay>false</allDay>
    <duration>1</duration>
    <admission>FREE</admission>
    <contact>
      <contactName>John Smith</contactName>
```

```
<contactPhone>555-555-5555</contactPhone>
<contactEmail>contact@school.edu</contactEmail>
</contact>
<categories>
  <category>
    <categoryID>13</categoryID>
    <categoryName>Campus Life</categoryName>
  </category>
  <category>
    <categoryID>16</categoryID>
    <categoryName>Other</categoryName>
  </category>
</categories>
<instances>
  <instance>
    <start>2009-01-26 09:00:00 GMT-08:00</start>
    <end>2009-01-26 10:00:00 GMT-08:00</end>
  </instance>
  <instance>
    <start>2009-01-27 09:00:00 GMT-08:00</start>
    <end>2009-01-27 10:00:00 GMT-08:00</end>
  </instance>
</instances>
</Event>
</Events>
```

Please paste an excerpt of the results returned from an events-in-range request in the field below:

Note: If you are producing an event system from scratch: we recommend that you consider adopting the Berkeley Calendar Project Schema (<http://groups.ischool.berkeley.edu/EventCalendar/>) or the UNL implementation of the BCS (<http://events.unl.edu/upcoming/?format=xml>).

Additional Notes for Events:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Library

Contact Information Section (optional)

- A contact section with contact information for different libraries or departments.

Please provide the desired contact information below:

e.g. Firestone Main Desk (555-555-5555), Reference (555-555-1222, ref@lib.school.edu)

Library Catalog Section:

- Option 1: WorldCat
 Option 2: Custom Data

Option 1: If the library system uses WorldCat, please provide the URL, API key and school code.

- URL:
 API Key:
 School Code (3-4 characters):

e.g. [http://www.worldcat.org/webservices/catalog/search/opensearch?q=\[search_terms\]&wskey=\[your_key\]](http://www.worldcat.org/webservices/catalog/search/opensearch?q=[search_terms]&wskey=[your_key])

Option 2: Custom Data

- A web-service that supports searching the library catalog based on the desired criteria
- Preferred: web-service that supports advanced search based on multiple criteria
 - The web service should return a list of library items (books, DVDs, etc) with the following attributes for each, provided as key-value pairs (see *Example L1* for sample data):
Recommended:

<input type="checkbox"/> statement of responsibility (e.g. author, director)	<input type="checkbox"/> title (e.g. Paradise Lost)
<input type="checkbox"/> type (e.g. book, DVD, CD audio)	<input type="checkbox"/> availability (e.g. 2 available)
<input type="checkbox"/> thumbnail image URL (e.g. http://www.syndetics.com/?isbn=020389281X/thumbnaill.jpg)	
<input type="checkbox"/> For each item, a set of detailed information should be available (it will be displayed to the user upon selection of a particular item from the search results). The detailed information provided to the user is dependent on what information is available, but may include some of the following attributes, in addition to those above. (See <i>Example L1</i> for sample formatting.)	
<input type="checkbox"/> description (e.g. a book of scores for pop. arias)	<input type="checkbox"/> publication information
<input type="checkbox"/> edition information (e.g. 2nd edition)	<input type="checkbox"/> excerpt from book
<input type="checkbox"/> ISBN	<input type="checkbox"/> size (e.g. # of pages or discs)
<input type="checkbox"/> other (specify):	

- Please provide an example of a proper search request with description as necessary in the field below:

e.g. <http://school.edu/library/?title=paradise&?author=milton>

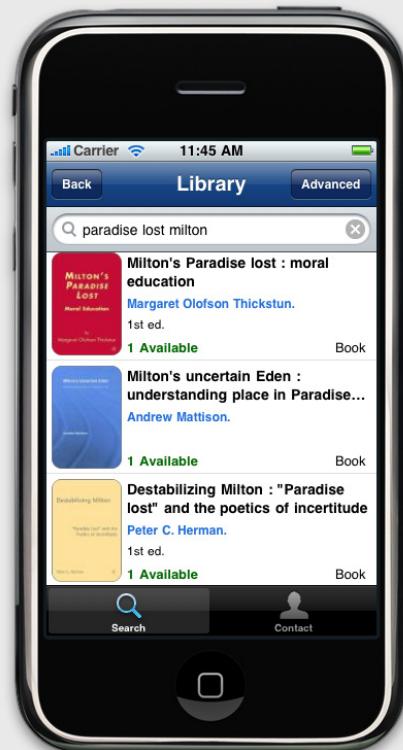
Option 2: (cont'd)

- Please provide an example of a proper item detail request with description as necessary in the field below:

e.g. http://school.edu/library/?item_id=9812340098

Example L1 - excerpted Library search results for keyword = Harry Potter

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<data>
    <LBIItem>
        <title>Harry Potter and the deathly hallows</title>
        <authors>
            <author>Rowling, J. K.</author>
            <author>GrandPré, Mary, ill.</author>
        </authors>
        <isbn>0545010225</isbn>
        <type>Book</type>
        <editions>
            <edition>1st ed.</edition>
        </editions>
        <imprints>
            <imprint>New York : Arthur A. Levine Books, 2007.</imprint>
        </imprints>
        <statementOfResponsibility>by Rowling ; illustr. by GrandPré.</statementOfResponsibility>
        <item_id>DUKE003867660</item_id>
        <availableString>1 Available</availableString>
        <image_url><![CDATA[http://www.syn.com/?isbn=0545/thumbnaill.JPG]]></image_url>
        <image_url_lg><![CDATA[http://www.syn.com/?isbn=0545/lg.JPG]]></image_url_lg>
    </LBIItem>
    <LBIItem>
        <title>Harry Potter and the Order of the Phoenix [video recording]</title>
        <authors> ...
        </authors>
        ...
    </LBIItem>
    <TCPagingResult>
        <start_index>0</start_index>
        <total_results>177</total_results>
        <page_size>20</page_size>
        <has_more_pages>true</has_more_pages>
    </TCPagingResult>
</data>
```



Option 2: (cont'd)

Advanced Search (Optional)

This function allows users to perform an advanced library search on as many attributes as can be searched in your data or web service.

For each attribute you would like to have available in the advanced search, please provide the following items in the field below:

- Label (e.g. Author)
- Text to show in blank field (e.g. Insert Author Here)
- Web service URL (e.g. http://library.school.edu/?title=paradise&author=milton)

- For reference, please paste a sample of the results returned from an item search request in the field below:

- For reference, please paste a sample of the item detail information in the field below:

Additional Notes for Library:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Get Help

This application (always tinted red) is intended to be simple and direct. It consists of a series of buttons, each with a title and a phone number, which call the specified (often emergency) service when pressed.

- Provide a CSV file with two values for each desired contact
 - Title - this should be short, clear, and descriptive
 - Phone number - the number to be dialed

Additional Notes for Get Help:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):



Links

This feature allows custom icons to be placed on the Mobile Central springboard which can link to a desired mobile web page or other destination (e.g. iTunes U page, web-streaming radio stations, or an Alumni donations page).

For each custom springboard link, please provide:

- Label - this will appear under the icon on the springboard
- Link - the link the user should be directed to
- Icon - 114x114 and 57x57 pixel, original layered PSDs

Please enter the desired labels and links in the field below.

e.g. "itunes U" > <http://deimos.apple.com/WebObjects/Core.woa/Browsev2/itunes.stanford.edu>



Additional Notes for Links:

Please use the field below to include any notes or information about the provided data not included above (data or web-service peculiarities, contact person, etc):

Setting up Mobile Web

What domain would you like to use to serve the mobile web suite ?

e.g. m.school.edu

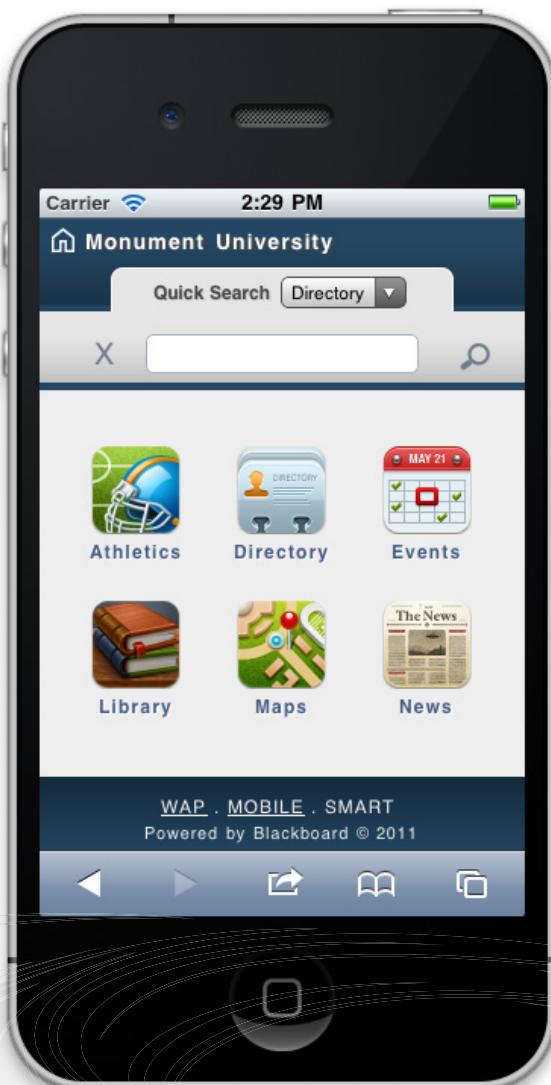
What domain would you like to use to serve the development mobile web suite?

e.g. m-dev.school.edu

For the production domain please create a CNAME entry in your DNS zone file to point (m.school.edu) to view.medu.com

For the development domain please create a CNAME entry in your DNZ zone file to point (m-dev.school.edu) to dev-view.medu.com

The following images are samples of a few views in the mobile web suite.



Smart Mobile Web

Index

Welcome to DukeMobile

- [Athletics »](#)
- [Courses »](#)
- [Directory »](#)
- [Events »](#)
- [Maps »](#)
- [News & Alerts »](#)
- [Places »](#)

Display Issues? Try our text only version

XHTML Mobile Web Index

Course

Courses » UGRD > Hindi >

HINDI 125
Advanced Hindi
2009 Fall
As of 10/22/09. Proficiency in reading, writing, and speaking. Prerequisite: Hindi 64 or equivalent. Instructor: Khanna
Section 01
type LEC
capacity 18
building Trent 038A
instructor Satendra Khanna
schedule 7:15pm-9:45pm Wed

XHTML Mobile Web Courses

Setting up Mobile Web: Splash Page

- Option 1 - Custom: Many institutions create a custom “splash page” for the mobile web suite. If you do choose to do so, we kindly request that you include the words “Powered by Blackboard” at the bottom in a non-obtrusive way.
- Option 2 - Default: Customize our default splash page for your app. Our default splash page can be seen in part in the below screenshot and in full at <http://m.terriblyclever.com>. The following items are the ONLY things that can be customized.
 - Header image
 - Max width: 960 pixels
 - Height (fixed): 120 pixels
 - Transparent background
 - Prefer layered PSD or vector file
 - Background color of splash page if not same as app tint color:
Red: Green: Blue:
 - Application descriptions: Include any custom application descriptions or titles below.

e.g. Athletics: New Title: “Tigers” New description: “Find the latest Tiger scores, news and more!”

Monument University

Monument University on Your iPhone® or iPod® touch

Connect to Monument University resources on-the-go with Monument University for iPhone or iPod touch. The application is available for download free from the Apple® App Store™.

Available on the App Store

News

Stay on top of campus news! Get the latest headlines from *The Daily* and other publications, and browse and search recent articles.

Courses

Browse the entire course catalog, view class times and locations, and add or drop classes with a tap.

Athletics

Never miss a home game, even when you're away. Check schedules, scores, and keep up-to-date with your favorite sports.

Directory

Search the public directly while on-the-go. Call and email virtually anyone campus-wide, and even add them directly to your phone's address book.

iPhone & iPod touch

BlackBerry

Everywhere Else!

Carrier 9:42 AM

directory athletics events courses

maps videos news images

library emergency

iPhone Suite - Customization and Branding

Application name (12 characters or less):

e.g. iStanford, DukeMobile

(this will appear under the application icon on the iPhone home screen)

For the Information/Support page (see sample below):

News/Project info URL:

default: http://medu.com

Support/Questions email address:

default: mobilesupport@blackboard.com

Keywords (for App Store, max. 100 char.) - Include keywords than an average user would find relevant.

e.g. iStanford, Cardinal, Card, Palo Alto

Application description for App Store (max. 4000 char.):

e.g. See <http://itunes.apple.com/us/app/tamumobile/>



Sample Loading Screen



Sample Info/Support Screen



Sample Background Screen



iPhone Suite - Design Resources

(when all design resources are available, send in a single zipped file)

As these resources will be used for various devices, we ask that you provide files of different sizes for each use (iTunes App StoreSM, iPhone 4, iPhone 3/iPod touch, and iPadTM).

Please provide both types of files for ALL ASSETS:

- Original layered PSD files**
- Flat Image (with no rounded edges or shine effects)**

- Main Application Icon** (for all icons, please name & resize as shown below.)

For the iTunes App Store:

- 512x512 px - *iTunesArtwork.psd* (see right)



For devices, all of the following:

- 114x114 px - *Icon@2x.psd*
- 72x72 px - *Icon-72.psd*
- 58x58 px - *Icon-Small@2x.psd*
- 57x57 px - *Icon.psd*
- 50x50 px - *Icon-Small-50.psd*
- 29x29 px - *Icon-Small.psd*

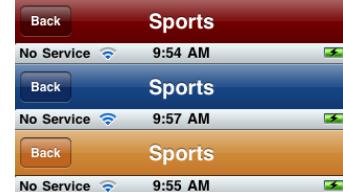
- Loading Screen** (see example on previous page)

(what the user sees when they first open the application, before the springboard loads)

- 640x960 px - *Default@2x.psd*
- 320x480 px - *Default.psd*
- Contains school logo in center of the image (or as is aesthetically pleasing)

- Info/Support Screen** (see example on previous page)

- 640x960 px - *About@2x.psd*
- 320x480 px - *About.psd*
- Contains school name and/or logo at top



- Background Screen** (see example on previous page)

(background image underneath the individual application icons on the main springboard) [Examples of Tint Colors](#)

- 640x960 px - *SpringboardBackground@2x.psd*
- 320x480 px - *SpringboardBackground.psd*
- Contains the school logo towards the bottom of the screen (leaving the top of the screen mostly clear so that the application icons/text read clearly)
- The bottom 70/35 px of the background screen should be a solid color.

- Tint Color**

(the color of the in-app menu bars and similar)

- Please enter the RGB values for the desired tint color below:

Red: Green: Blue:

- Athletics Logo** (for the schedule & score pages)
 - 160x160 px - *Team/logo.psd*



Optional Resources

- Individual Application Icons** (*one icon for each application within the suite*)
 - 114x114 and 57x57 pixel versions
 - Flat image (with no rounded edges or shine effects)



BlackBerry Suite - Customization and Branding

Application name (no length limit, but only use alphanumeric characters and space, hyphen, underscore, parentheses, apostrophe):

e.g. iStanford, DukeMobile

Time zone:



Design Resources

(when all design resources are available, send in a single zipped file)



Main Application Icon

(large, for the App World, which will be scaled down for the home screen)

- 480x480 pixels
- PNG-24

Note: BlackBerry® application icons can be transparent, and transparent icons rather than boxy icons tend to look better on the home screen. Most icons are a school's primary logo or athletic logo, with a small drop shadow, over a transparent background. In the case that your logo is more elaborate, it would be wise to have a non-transparent background to maximize readability; in this case a rounded rectangle the same shape as iPhone icons looks good.

Background Screen

(the background image that lies underneath the individual application icons on the main springboard)

Provide a background which is either

- Option 1:** A detailed background image (e.g. with seal, logo, mascot)

- 360x480 PNG for portrait-screen phones
- 480x360 PNG for landscape-screen phones

Note: for Landscape-screen phones, the background may be cropped on the bottom or top, or scaled down to fit a smaller screen. For the specific measurements, and the placement of icons on top of the background you create, see the screen diagrams.

- Option 2:** A solid color or other tile (e.g. gradient) as a 480x480 PNG

(Optional) Additionally, you may provide a logo with transparency to be displayed below the application icons (especially for Option 2).

- 200x200 - 320x120 pixels for the logo
- For reliable scaling on different screens, use transparency so that the logo image file fills the bounding area (entire width of screen). See diagram for more details.

Do you want the application name to be rendered in plain text at the bottom of the screen? This choice affects the logo placement in #4 (see diagrams for example).

- Yes
- No

Tint Color

(the color of the in-app menu bars and similar)

- Please enter the RGB values for the desired tint color below:

Red: Green: Blue:

Optional Resources

Individual Application Icons

(for each application within the suite)

For each application, four icon images are required:

- 1) Small base image (40x40 px PNG)
- 2) Large base image (60x60 px PNG)
- 3) Small highlighted version (40x40 px PNG)
- 4) Large highlighted version (60x60 px PNG)

Note: Each icon needs to have a “highlighted” version, to show that the user is focusing on it. Highlighting an icon can be as simple as an increase in brightness or a color change, so long as that change is noticeable. Even better is changing the appearance of the icon to animate it somehow, such as opening a box, turning on a light bulb, rotating and enlarging a ball, etc.

Note: You can use the same base icons as the iPhone suite icons, or make custom ones for BlackBerry®. Transparency looks great on BlackBerry®, so consider only using the primary shapes in your icon and not a border or rounded rectangle.

Testing the Applications

This section will give you a brief overview of the testing process and what is required.

iPhone/iPod touch

Most significantly, in order to finish testing the iPhone Suite, you will need your own iPhone or iPod touch (iPhone is preferred for testing of GPS-based features). A debug build will be provided to you with instructions for installing the build onto your own device. Once you approve the final test build, we will submit the application to the iPhone App Store!

BlackBerry

As with the iPhone suite, in order to perform full testing of the BlackBerry® suite, you will need your own BlackBerry device(s). A final debug build will be provided to you - see below for instructions on installing builds on your device. Because this final test version is built for a different architecture (for the physical devices, instead of the BlackBerry Simulator) we encourage you to perform thorough testing. Also, because the application may appear or perform differently on different devices, we encourage you to test the application on as many different BlackBerry® models as possible. Once you approve this final test build, we will submit the application to the BlackBerry App World!

Android

As with the other suites, in order to perform full testing of the Android™ suite, you will need your own Android device(s). A final debug build will be provided to you - see below for instructions on installing builds on your device. Because this final test version is built for a different architecture (for the physical devices, instead of the Android emulator) we encourage you to perform thorough testing. Also, because the application may appear or perform differently on different devices, we encourage you to test the application on as many different Android device models as possible. Once you approve this final test build, we will submit the application to the Android Market!

Mobile Web

Testing for the enhanced version of the mobile web suite can be performed on a computer (with a mobile web browser agent) or with most mobile devices with browser access. In order to perform testing of the WAP (most basic) version, you will need a WAP enabled mobile device. Note that clicking the "Try our text only version" link from a non-WAP browser (e.g. on a smartphone browser) will show XML or HTML code; this is not an error. After you approve the mobile web suite on a development server, it can be switched to a production server for public use.

How to Install an Application Build on Your iPhone/iPod touch



Using iTunes

You must be using the computer that you use to SYNC with your iPhone (for Applications, at least).

- 1 Unzip the file archive we sent you.
- 2 Connect your phone to your computer, and make sure iTunes is open and the target iPhone/iPod touch is connected.
- 3 Drag the .mobileprovision file from Finder (or from Mail) into the iTunes icon on your Dock. You won't see any results, but this should have done the trick.
- 4 Drag the .app file into the iTunes icon in the same way. This will add the app to the Applications section of iTunes.
- 5 Select your iPhone in iTunes, and click Sync to sync the application from your computer to your phone.

If the above doesn't work, see the below instructions to install the build using XCode.



Using XCode

- 1 First, open XCode, and select *Organizer* from the *Window* menu.
- 2 Drag the .mobileprovision file into the *Provisioning Profiles* section of the XCode Organizer.
- 3 Select your connected iPhone/iPod from the panel on the left.
- 4 Drag the provision that you just added from the left panel into the *Provisioning* section of your connected iPhone/iPod in the main panel.
- 5 In the *Applications* section on the main panel of the selected iPhone/iPod, click the "+" icon. Choose the .app file that was unzipped.

The application will now copy to the phone.

How to Install an Application Build on Your BlackBerry

- 1 Open the browser to the url for your app build.
- 2 The Download screen will appear: Press the “Download” button to start downloading the application.
- 3 Press “Replace” if the application already exists. While downloading, there may be pop-up windows that launch regarding previously installed modules.
- 4 Depending on the device, you may be prompted to reboot the blackberry.
- 5 Once you’re done, press the “Menu” button and find the application installed in the “Downloads” area.

How to Install an Application Build on Your Android device

- 1 If you haven’t done so already, go to Settings/Application settings and enable Unknown sources. This may not be available on some phones: some carriers don’t allow you to install test builds (most notably in the US: AT&T).
- 2 Open the browser to the url for your app build. The file should automatically start downloading.
- 3 Once it finishes downloading, open the file and it will open automatically in the Package Installer.
- 4 Choose the “Install” option to install the test build.

Maintenance of Your Application

We would like to have an established communication process for you to give us information about when your data sources (i.e. systems, servers, feeds, etc) are going to be down. It is important for our team to anticipate factors that will affect our development, testing, and support.

This could take the form of:

- Add us to an email distribution that receives notifications
- A link or access to a page where maintenance messages will be posted
- An email to your Client Implementation Manager before scheduled maintenance

(e.g. We will add you to monument-news-outages@monument.com for news feed disruption updates)

Marketing Your Mobile App

It's never too early to start thinking about marketing the launch of your app - it's a critical part of any implementation.

First Steps

When you receive the first test build of your app, we can arrange a call with your Project Team Lead, Marketing Lead and a member of the Blackboard Mobile Marketing Team to help you start planning your rollout. You will be provided with a copy of our Launch and Adoption Kit as well as a few marketing templates to help get you started. These items can be sent earlier if requested.

Marketing Contact:

e.g. Jane Smith, jane.smith@monument.edu, 415-555-5555

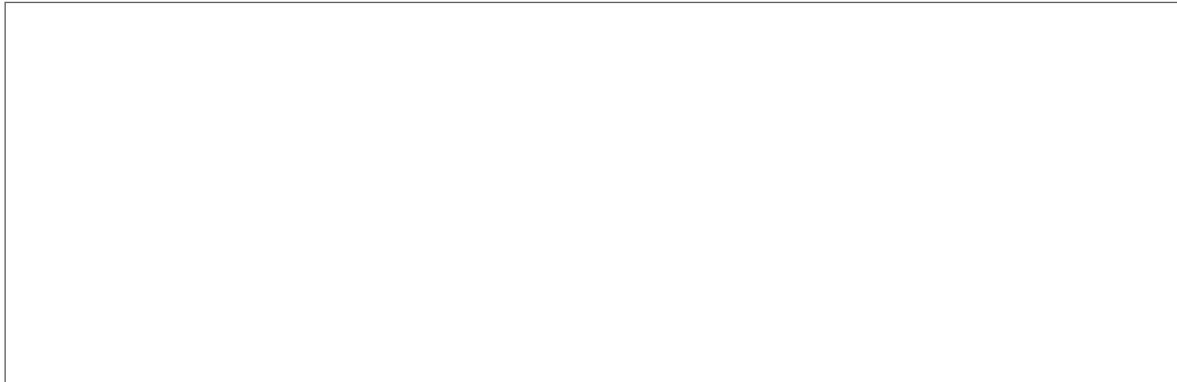
I would like to receive the Launch Kit and Marketing Templates...

Immediately
 Upon receiving first test build

Any additional Marketing assistance requests:

Future Enhancements

We want to hear from you!

A large, empty rectangular box with a thin black border, occupying the upper left portion of the slide. It is intended for users to type or draw their feedback.

Blackboard Mobile™ Central

Blackboard
mobile™

GENERALLY AVAILABLE MODULES, FEATURES, AND FUNCTIONALITY.

Blackboard Mobile Central is available natively for Android™, BlackBerry®, webOS™, and iOS for the iPhone® and iPod touch®, as well as in Mobile Web versions for browser-enabled devices. This document describes the modules, features and functionality that are generally available for the Blackboard Mobile Central suite, by platform.

	iOS iPhone and iPod touch, iOS 3.1.3+	Android OS 2.0+	BlackBerry OS 4.2+	webOS OS 1.4.5+	Mobile Web* XHTML and Smart
 Maps	✓	✓	✓	✓	✓
 Places	✓		✓	✓	XHTML Only
 Transit	✓			✓	
 Tours	✓			✓	
 Courses	✓	✓	✓	✓	✓
 Athletics	✓	✓	✓	✓	✓
 News	✓	✓	✓	✓	✓
 Library	✓	✓		✓	✓
 Videos	✓	✓	✓	✓	
 Directory	✓	✓	✓	✓	✓
 Events	✓	✓	✓	✓	✓
 Images	✓	✓	✓	✓	
 Get Help	✓	✓	✓	✓	
 Links	✓	✓	✓	✓	

* Our Mobile Web platform will automatically direct users to the best version for their devices. Smart is supported by browsers utilizing WebKit or Gecko layout engines, or other modern browsers (e.g. IE8, IE9, and Opera). This includes most iOS, Android, webOS, and Windows Phone 7 devices, but more specifically requires: JavaScript enabled with AJAX support; minimally CSS 2, recommended CSS 3.



Maps	iOS	Android	BlackBerry	webOS	Mobile Web
Building Search Find a building location.	✓	✓	✓	✓	✓
Location Detail View building details (as provided: images, handicap accessibility, departments, address, etc.).	✓	✓	✓	✓	✓
Campus Map GPS-coded, vector-based campus map. Also, show maps for multiple campuses.	✓	✓	✓	✓	
Personal Bookmarks Bookmark locations you may want to locate in the future for easy access.	✓	✓	✓	✓	
Find Me Find your exact location on campus.	✓	✓	✓	✓	
Compass Integration For the iPhone 3GS and above, click twice on the compass icon and the map will reorient itself to show you which direction you're facing.	✓				
Google Maps Use Google Maps for your campus map. (Transit, Places, and Tours are not supported with Google Maps.)	✓	✓			Smart Only



Places plug-in to Maps	iOS	Android	BlackBerry**	webOS	Mobile Web
Categories Browse categories of locations on campus, such as Dining, Libraries, or Residence Halls to find your desired destination.	✓		✓	✓	XHTML Only
Maps Link Integrate with Maps to show locations on campus.	✓		✓	✓	XHTML Only
Detailed Info View hours of operation, menus, and other helpful information.	✓		✓	✓	XHTML Only

** For BlackBerry, Places is available as a separate module, not a plug-in.



Transit plug-in to Maps	iOS	Android	BlackBerry	webOS	Mobile Web
Transit View bus/transit schedules.	✓			✓	
Real-time Bus Locations View bus locations in real-time when GPS data is available.	✓			✓	



Tours plug-in to Maps	iOS	Android	BlackBerry	webOS	Mobile Web
Custom Tour Routes Define multiple custom tour routes with different lengths, themes, etc.	✓			✓	
Campus Map Integration Guide users from one location to another on your campus map using GPS.	✓			✓	
Location Detail Provide detailed information about points of interest on campus, including text, audio, and videos.	✓			✓	



Courses	iOS	Android	BlackBerry	webOS	Mobile Web
Course Catalog Feed data from administrative system. Easily browse the entire course catalog.	✓	✓	✓	✓	✓
Search Search all course listings for your desired criteria, e.g., topic, or course level.	✓	✓	✓	✓	✓
Course Detail Show course descriptions, meeting times, and more.	✓	✓	✓	✓	✓
Instructor Link Link directly to the instructor's profile in the Directory module.	✓	✓	✓	✓	✓
Map Link Link to the Maps module to view the location where the course is being held.	✓	✓	✓	✓	✓
Personal Bookmarks Bookmark favorite courses you want to access again easily from your personal bookmarks.	✓	✓	✓	✓	
With Additional Services Engagement:					
My Courses Display a user's current and past courses (based on Administrative system).	✓	✓	✓	✓	✓
Add/Drop Allow users to add and drop courses directly from their mobile devices.	✓	✓	✓	✓	✓
Grades View grades from past courses.	✓	✓	✓	✓	✓



Athletics	iOS	Android	BlackBerry	webOS	Mobile Web
Scores Scores provided by the institution. Real-time scores if feed available.	✓	✓	✓	✓	✓
Sports News Feed of sports news.	✓	✓	✓	✓	✓
Schedules Shows when and where games will be played for the season.	✓	✓	✓	✓	✓



News	iOS	Android	BlackBerry	webOS	Mobile Web
Feed News data from an RSS feed or other predefined channel.	✓	✓	✓	✓	✓
Multiple Feeds Multiple Feeds are supported on a single screen.	✓	✓	✓	✓	✓
Alert Notification Specific feeds can be chosen as "alert" feeds, which will notify the user about new stories with a visual indicator.	✓	✓			
View Articles Natively Read articles natively on your mobile device rather than viewing in a browser.	✓				



Library	iOS	Android	BlackBerry	webOS	Mobile Web
Browse the Library Catalog Browse the online catalog of books and other resources.	✓	✓		✓	✓
Item Details View library item details like call number, author, title, and copyright information.	✓	✓		✓	✓
Item Availability See book/resource availability, including the number of copies, and the exact location in the stacks.	✓	✓		✓	✓
Map Link Link to the Map to view the library location.	✓	✓		✓	✓
Ask a Librarian View contact information for the Librarian and even contact directly via email or phone.	✓	✓		✓	✓



Videos	iOS	Android	BlackBerry	webOS	Mobile Web
Videos Browse, search and view videos.	✓	✓	✓	✓	
Podcast Embed a video or audio podcast channel.	✓	✓		✓	
Multiple Channel Support Support multiple defined channels from your institution (e.g., YouTube, iTunes, and more).	✓	✓	✓	✓	
Grid View View videos in a grid layout.	✓	✓			



Directory	iOS	Android	BlackBerry	webOS	Mobile Web
Campus Phone Book Searchable directory of faculty, staff, students, buildings, and other points of interest as provided by the institution (all publicly-available information).	✓	✓	✓	✓	✓
LDAP Integration Integration is dependent upon a campus-wide LDAP or Active Directory solution.	✓	✓	✓	✓	✓
Privacy Settings User privacy settings are set by the LDAP directory server.	✓	✓	✓	✓	✓
Location Map Link Any building, location or person in the Directory may have an associated location with links directly to the Maps module.	✓	✓	✓	✓	✓
Phone Directory Integration Add contact information from the Directory app to your phone's built-in address book.	✓	✓	✓	✓	✓
Call and Email Call and email contacts directly from the Directory app.	✓	✓	✓	✓	✓
Personal Favorites Mark contacts as favorites for easy access later.	✓	✓	✓	✓	



Events	iOS	Android	BlackBerry	webOS	Mobile Web
Calendar Feed Shows events on a calendar with list, day, and month views.	✓	✓	✓	✓	✓
Multiple Feed Support Define multiple calendars and browse-able categories within each calendar.	✓	✓	✓	✓	✓
Search Search calendars for desired events.	✓	✓	✓	✓	✓
Personal Bookmarks Bookmark events in your personal bookmarks for easy reference.	✓	✓	✓	✓	
Around Me See events that are taking place near your current location.	✓	✓	✓	✓	
Event-Calendar Integration Add events directly to your device's calendar from the event detail page.	✓		✓	✓	
Month View Activity Indicators Dots indicate days when events are occurring in the month view.	✓	✓		✓	Smart Only



Images	iOS	Android	BlackBerry	webOS	Mobile Web
Image Feed Supports an image, with description, copyright information, and more.	✓	✓	✓	✓	
Definable Image Categories Define image feeds of institutional images, library collections, or subscriptions.	✓	✓	✓	✓	
Search Search all available images or a chosen collection for images matching your desired criteria.	✓	✓	✓	✓	



Get Help	iOS	Android	BlackBerry	webOS	Mobile Web
Phone Numbers and Websites Provide direct, easy access to important phone numbers or websites.	✓	✓	✓	✓	
Call and Link Call important phone numbers and visit websites directly from the app.	✓	✓	✓	✓	



Links	iOS	Android	BlackBerry	webOS	Mobile Web
Website Link Link to desired web pages.	✓	✓	✓	✓	✓
Modules and Services Links Link to other modules or services, e.g., iTunes U, or an alumni donations site.	✓	✓	✓	✓	✓
Custom Icons Create custom icons for each desired link.	✓	✓	✓	✓	✓

The Blackboard Mobile SDK and Mobile Technical Services

Blackboard Mobile Central clients can also leverage the Blackboard Mobile SDK to develop new, custom modules that will plug into your app's springboard, or work with our Mobile Technical Services team for assistance with building new modules, augmenting existing ones to achieve desired functionality or for training on the SDK.

