The ICPC Presentation Client

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An ICPC Tool

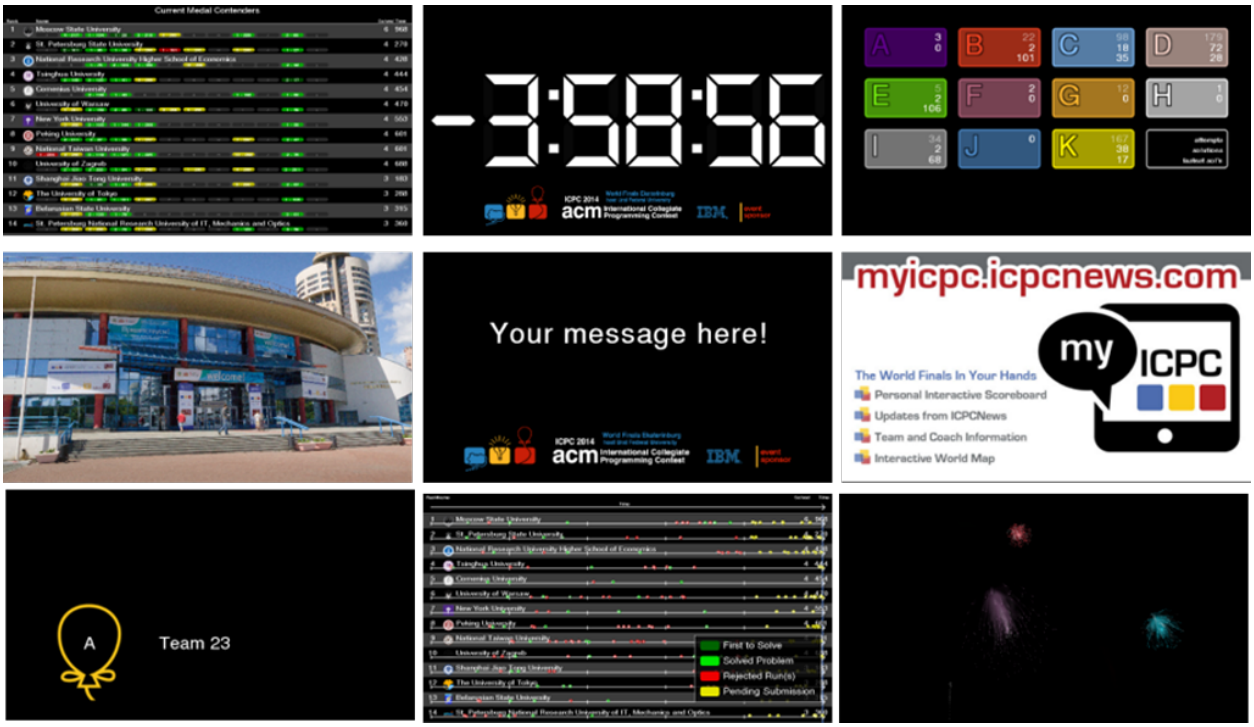
Introduction

The ICPC Presentation System provides a mechanism for generating "slide show" presentations containing user-provided images, photos, and a variety of live data from a running contest. The Presentation System consists of two components: *Presentation Clients* and the *Presentation Admin*. This document describes the Presentation Client component; refer to the separate documentation on the Presentation Admin for an explanation of how that component operates.

A Presentation Client is a single process which displays (rotates between) one or more *presentations*. The Presentation System contains a wide variety of built-in presentations, each of which is identified by having both a *number* and a *title* (also referred to as its *name*). Each presentation client is started by giving it a list of the presentations (by number or title) that the client should display. It is allowable to start multiple simultaneous presentation clients, each displaying its own (possibly overlapping) set of presentations. Each separate presentation client is typically run on a separate machine, with each machine connected to a projector or large display to allow many people to watch. (At the ICPC World Finals, for example, as many as 10 or more separate screens are displayed, each running its own specified sequence of presentations.)

Some built-in presentations incorporate data from a running contest. For example, one presentation knows how to display the current contest scoreboard, updating it as the contest progresses; another displays a rising (animated) balloon, labeled with the appropriate team and problem letter/color, whenever a team solves a problem; another presentation shows a graph of the languages used to solve problems so far in the contest; another shows the runs currently in the "judge's queue" and the judgment each runs receives as it exits the queue; still another presentation shows the current contest clock (remaining time); and so forth.

The following images show some of the many built-in presentations which can be displayed by the Presentation System; see below for a complete list of available presentations.



Input Data Sources

When a Presentation Client is started it must be told, in addition to what presentations to display, where to obtain its input data (images, contest events, etc.). This is referred to as specifying a *contest source*. Presentation Clients can obtain their input data from two different types of contest sources: a compliant *Contest API*, or a a *Contest Package* folder.

When connecting to a live contest via the Contest API, the Presentation Client works by reading the *event feed*. The ICPC Presentation System will work with any CCS or the CDS that produces an event feed which is compliant with the Contest API specification. Tools known to produce compliant event feeds include Contest Data Server, DOMjudge, PC-Squared, and Kattis; other Contest Control Systems may also produce compatible event feeds and hence work with the Presentation System.

A second way to provide the Presentation Client with input data is by creating a *Contest Package* folder as per the reference above.

Using the Presentation Client

Installation

To install the Presentation Client, download and unzip the Presentation Client distribution package to any convenient location. The Presentation Client itself is a collection of Java programs (components). The distribution is a self-contained package which contains all the Java libraries and other components necessary to run the Presentation Client. (Note however that Java itself, version 1.8 or higher, must be installed on the machine.)

Operation

The Presentation Client is designed to run in one of two modes: *standalone* or *admin_controlled*. This document focuses on using the Presentation Client in *standalone* mode. Using the Presentation Client in *admin-controlled* mode requires installing the separate *Presentation Admin* ICPC Tool; that usage is discussed

briefly below and is described in greater detail in the separate documentation for the Presentation Admin (a separate ICPC Tool).

Standalone Mode The Presentation Client distribution includes a set of scripts which can be used to launch the program, standalone.bat for Windows platforms and standalone.sh for macOS and Linux. (for Linux or similar systems see *Additional Notes*, below) Also, see the Presentation Admin documentation for information regarding a second script, *client.bat*, which is contained in the Presentation Client distribution.

The *standalone* script assumes it is being run from the main Presentation Client folder (i.e. from the folder where the distribution was unzipped) and is invoked with a set of command line parameters to control its operation.

The first parameter to the script specifies a contest data source, either a URL to a Contest API server, or a local folder that is the root of a *Contest Package* as described above.

If the first parameter is a URL, the Presentation Client expects the next two parameters to specify a user name and password. This user name and password are used to login to the Contest API.

The final parameter must be a "--p" option followed by a set of presentation names or numbers, separated by spaces; for example, "2 4 clock" (which requests a presentation sequence consisting of presentation number 2, then number 4, then the presentation named "clock").

To terminate a running presentation, press Ctrl-Q. To see debug information including the the current presentation and frame rate, use Ctrl-D.

Admin-Control Mode As described above, the Presentation Client provides support for displaying (rotating between) one or more individual presentations. Each instance of the Presentation Client is limited to this functionality; multiple instances can be started but they have no knowledge of each other, there is no way to coordinate their content other than manually when they are started, and there is no way to change the content of a given Presentation Client except by shutting it down and restarting it.

The ICPC Tool set also includes a separate tool called the *Presentation Admin* (see the ICPCTools website). The Presentation Admin tool provides functionality for managing multiple Presentation Clients; it allows dynamically changing the content of each of many clients along with additional related functions.

If a Presentation Client is going to be used in conjunction with a Presentation Admin, the Presentation Client must be started in a slightly different way. This is supported by a second script (batch file) named *client.bat*.

Like the *standalone* script, the *client* script assumes it is being run from the main Presentation Client folder (i.e. from the folder where the Presentation *Client* distribution was unzipped) and is invoked with a set of command line parameters to control its operation. In this case, however, the parameters are used to register with a Contest Data Server (CDS) and await further instructions from an Admin.

Similar to the *standalone* script, the first three parameters to the *client* script must be a URL to a CDS, a user name, and a password. You do not use "--p" since the list of presentations to display will be configured using an Admin.

If you are running multiple presentation clients it is useful to be able to differentiate them. The "--name" option can be used followed by a string (e.g. "--name left-screen") to uniquely identify this particular client in the Admin.

Usage

The general form for executing the Presentation Client in standalone mode is

```
standalone.bat/sh contestURL user password [options], or
standalone.bat/sh contestPath [options]
```

where

```
contestURL is an HTTPS URL to connect to a CDS, followed by user and password

contestPath is a local folder to load from a contest package
```

The general form for executing the Presentation Client in admin-controlled mode is

```
client.bat/sh CDSurl user password [options]
```

where

```
CDSurl is an HTTPS CDS URL, followed by user and password
```

Command Line Options

`--p <presentations>`

Standalone client only. Any number of parameters specifying the presentation(s) to display. Each parameter must by a number or partial presentation name. For example, "2 4 clock" which requests a presentation sequence consisting of presentation number 2, then number 4, then the presentation named "clock". Run without any options to see the list of available presentations.

`--name <name>`

Admin-controlled client only. Specifies a name to refer to this client in the admin, e.g. "Stage right" or "Hallway".

`--display <num>`

Specifies which desktop display to use in full-screen exclusive mode. The primary display is number 1, secondary is number 2, etc. If this option is not specified the default is the primary display.

`--multiDisplay <p@wxh>`

Specifies that this client is part of a presentation stretched across multiple client displays. The format of the parameter is "position @ width x height", where width and height are the number of displays horizontally and vertically, and position starts at 1 in the top left and is incremented horizontally. For example, use "2@3x2" to indicate this client is position 2 (top middle) in a 3x2 grid.

`--light`

Light mode - use a white background and shift colors to match.

`--display_name <template>`

Allows you to change the way team names are displayed using a template with the following parameters:

Parameter	Value
{team.display_name}	The team's display name, e.g. "drop tables". If there is no display name the team name will be use
{team.name}	The team's name, e.g. "drop tables".
{org.name}	The organizations name, often a short form, e.g. "UBC".
{org.formal_name}	The full organization name, e.g. "University of Toronto". If there is no formal name the organizatio

Examples:

- -—display_name "{team.name} ({org.name})"
- -—display_name "{org.formal_name}"
- -—display_name "{org.formal_name} ({team.name})"

`--account <type>`

Filter contest data based on what should be visible to an account of the given type. This is useful when

the Contest Control System only has a single event feed or account that includes internal information (e.g. judgements during the freeze) and you want to show presentations in an area where it will be visible to teams (`--account team`) or spectators (`--account spectator`).

Examples

```
standalone.bat https://cds user pwd --p logo pictures
```

The above command starts the Presentation Client, causes it to connect to a CDS at the specified URL using the specified user name ("user") and password ("pwd"), and begins alternating between two presentation displays: the first consisting of the ICPC Contest Logo, the second consisting of a set of pictures obtained from the appropriate CDS URL.

```
standalone.bat c:\myContest --p 1 3 16
```

The above command starts the Presentation Client, causes it to load contest information from the Contest Package whose root is the folder "c:\myContest", and begins alternating between presentations 1, 3, and 16.

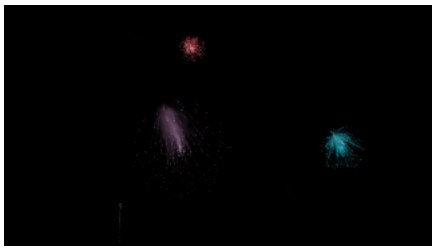
```
client.sh https://cds user pwd --name "Site 2"
```

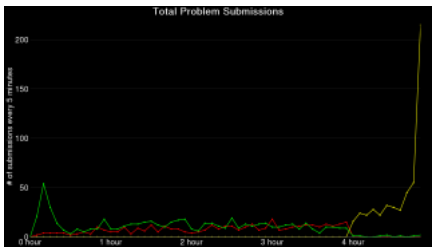
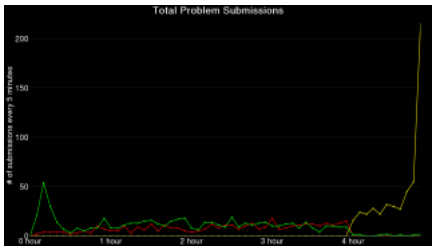
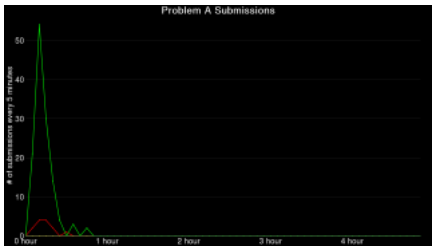
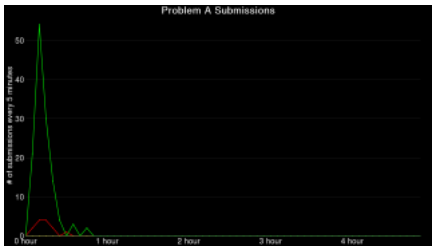
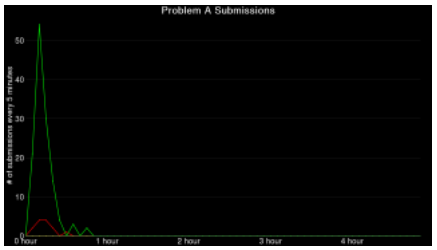
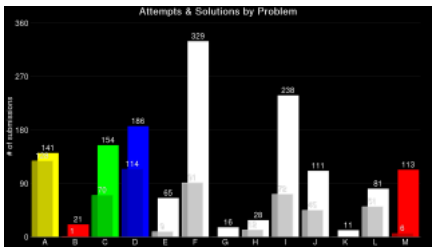
The above command starts a Presentation Client in admin-controlled mode, causing it to connect to the CDS specified by the URL *https://cds* logging in with the name "user" and the password "pwd" and registering itself with the Presentation Admin as "Site 2". The Presentation Client then remains quiescent with a blank screen until it receives a command from a Presentation Admin (forwarded via the CDS) telling it what to display.

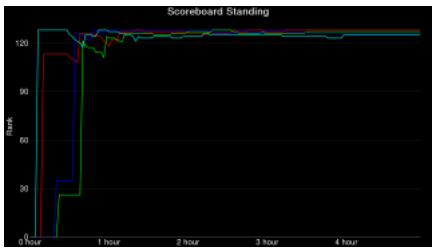
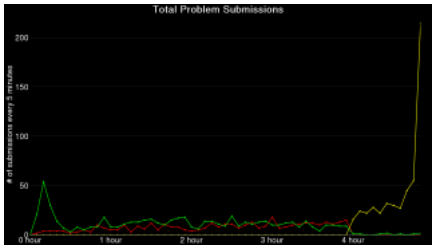
Available Presentations

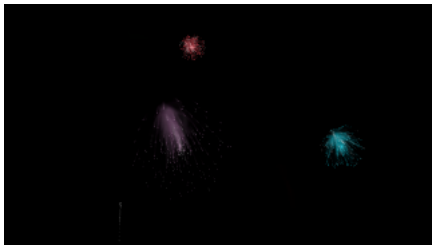
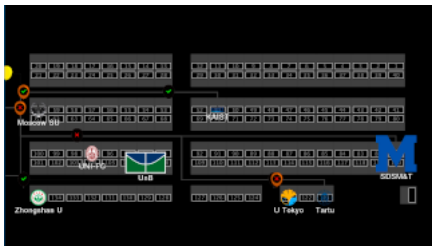
The Presentation System contains a variety of built-in presentations which can be displayed by Presentation Clients. (It is also possible for users to create their own presentations, both static and dynamic, and to include them into the ICPC Presentation System; a future version of this document will provide information on how that works.) Some of the available presentations are listed in the table below, which shows their identifying number and name, the internal specification by which they are known, and notes on their operation. (Note that the numbers will be different, and some presentations are only useful when used in conjunction with the Presentation Admin.)

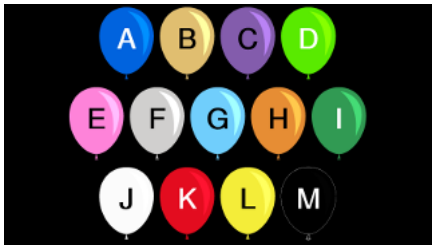
Available presentations:

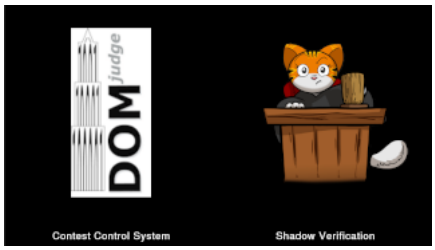
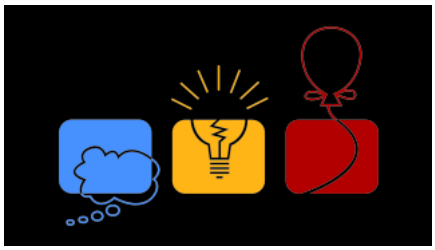
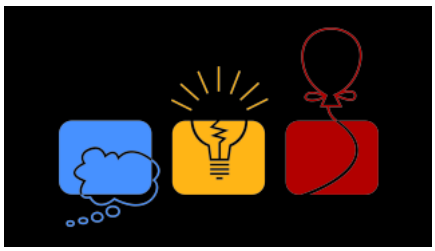
#	Name	Id	Thumbnails	Description
	Beta			
1	Better Fireworks	.better.fireworks		
2	Contest Floor	.floor		Shows the contest f
3	Floor Activity	.old.floor		Displays the contes
	Chart			

#	Name	Id	Thumbnails	Description
4	Historical comparison	.chart.historical		
5	Judge Queue Depth	.chart.queue.depth		
6	Judgement time	.chart.judgement.time		
7	Languages	.chart.language		
8	Problem comparison	.chart.problem.comparison		
9	Problem detail	.chart.problem.detail		
10	Problem summary	.chart.problem.summary		Shows attempts, sc

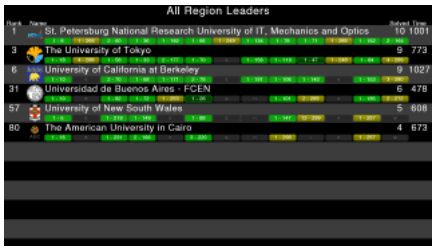
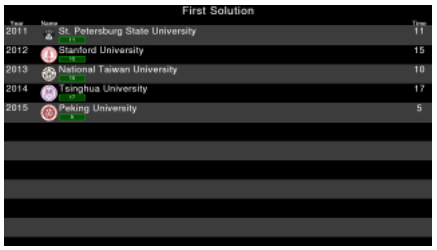
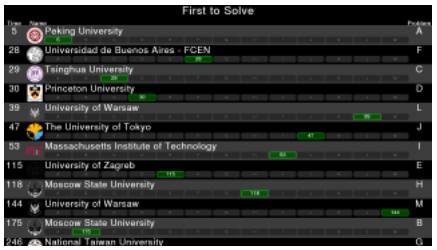
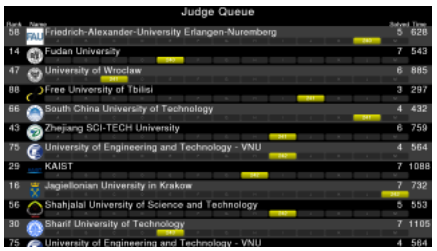
#	Name	Id	Thumbnails	Description
11	Scoreboard	.chart.score		Shows position of c
12	Total Problems	.chart.total.problems		
	Clock			
13	Contest clock	.clock		The contest time re
14	Countdown	.countdown		A countdown clock
15	Countdown with sites status	.multisitecountdown		A countdown clock
	Fun			
16	Polar countdown	.polar		A polar countdown

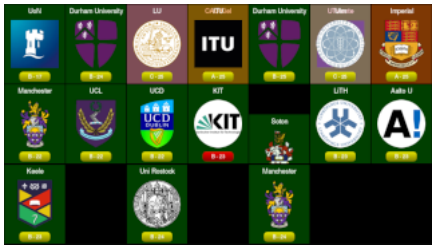
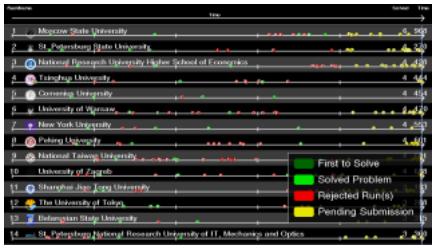
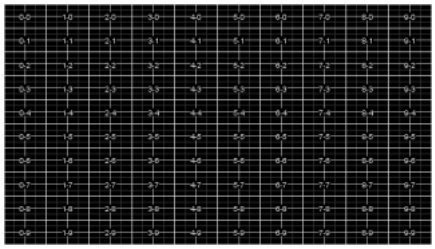
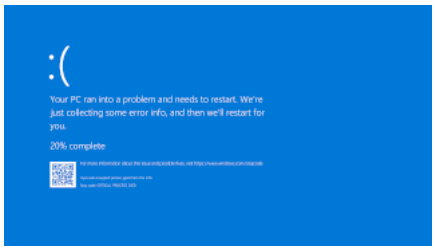
#	Name	Id	Thumbnails	Description
17	Bill Poucher	.bill		The venerable ICP
18	Do not touch anything	.doNotTouch		A pre-contest mess
19	Fireworks	.fireworks		
20	Mohamed Fouad **ICPC**	.mohamed		
21	Balloon Path	.balloon.path		Contest floor showi
22	Commentary	.commentary		Displays contest co
23	Fading Logos	.org.logo.fade		Shows the logos of

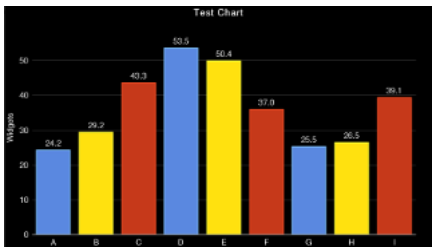
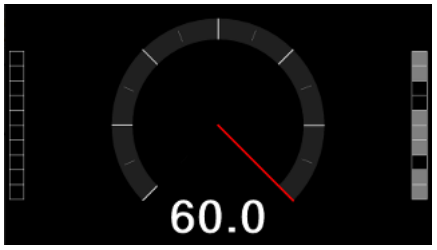
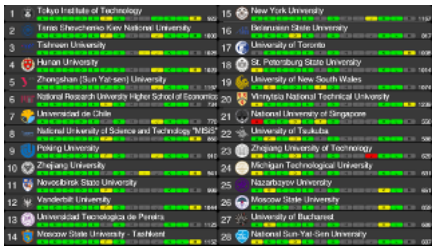
#	Name	Id	Thumbnails	Description
24	Logo Wall	.org.logo.wall		Shows all organizat
25	Person	.person		Highlight a person
26	Photo and caption	.single.photo		The photo at CDP
27	Photos	.photos		A rotating set of p
28	Problem Colours	.problems.colors		The problem colors
29	Problem summary	.problem.summary		
30	Single Team	.team		A team photo and

#	Name	Id	Thumbnails	Description
31	Sliding Logos	.org.logo.slide		Slides the logos of
	Logos and Messages			
32	CCS	.ccs		The primary (and
33	ICPC Tools	.icpc.tools		The ICPC Tools lo
34	Image progression	.imagebuild		Fades through a se
35	Logo A	.logo		Displays the contes
36	Logo B	.logo2		Displays the contes

#	Name	Id	Thumbnails	Description
37	Message	.message		A message and con
38	Promotions	.promo		A rotating set of p
	Maps			
39	Group	.map.group		Shows where group
40	Submissions	.map.balloon		A world map with
41	Team Intro	.map.team		Steps through all t
42	World	.map.world		Map of the world.
	Resolver			
43	Award Detail	.resolver.team.award		
44	Judge Queue	.resolver.judge		
45	List Award	.resolver.team.list		

#	Name	Id	Thumbnails	Description
46	Orgs Remaining	.resolver.orgs		
47	Splash	.resolver.splash		
48	Team Logo	.resolver.team.logo		
	Scoreboard			
49	All Groups leaderboard	.leaderboard.group.all		
50	First solution	.first.solution		Tracks the first sol
51	First to solve	.first.to.solve		Shows which team
52	Group leaderboard	.leaderboard.group		
53	Judge queue	.judge		The judgement que
54	Leaderboard	.leaderboard		

#	Name	Id	Thumbnails	Description
55	Scoreboard	.scoreboard		The current contes
56	Team Judgements	.judge.team		A team judgement
57	Timeline	.scoreboard.timeline		
	Team			
58	Desktop	.icpc.team		Team machine desk
59	Logo	.icpc.logo		The ICPC identifie
60	Snake	.icpc.team.snake		Wave based on tea
61	Sync	.icpc.sync		Flashing ICPC in s
62	Video test	.icpc.team.video		A tool to verify vid
63	Wave	.icpc.team.wave		Do the wave!
	Test			
64	Alignment	.test.align		A grid to help with
65	BSoD	.test.bsod		A special hello fron

#	Name	Id	Thumbnails	Description
66	Chart	.test.chart		A test chart
67	Clock	.test.clock		The current system
68	FPS	.test.fps		A frame rate guage
69	Synchronization	.test.sync		A moving ball to te
	Tile Scoreboards			
70	Team scoreboard	.tile.team		Team picture with
71	Tile list	.tile.scoreboard.list		A contest scoreboa
72	Tile rank	.tile.scoreboard.rank		A ranked contest sc

#	Name	Id	Thumbnails	Description
73	Tiles	.tile.scoreboard		The current contes