# The ICPC Presentation Client



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An ICPC Tool

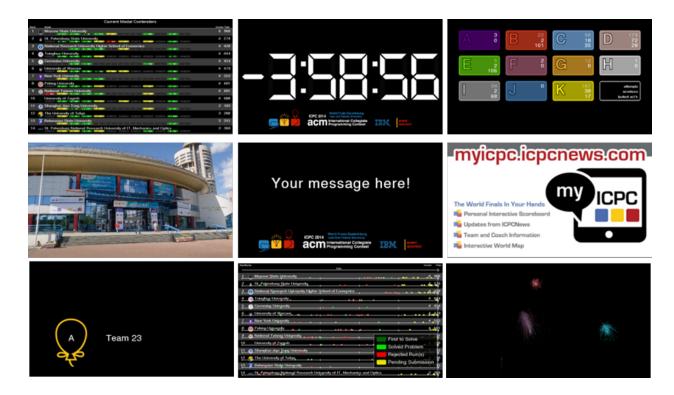
### Introduction

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 data source*. Presentation Clients can obtain their input data from two different types of contest data sources: a compliant *Contest API*, or a a *contest data package (CDP)*.

When connecting to a live Contest Control System via the Contest API, the Presentation Client works by reading the *event feed* output of the CCS. 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 data package* (CDP). A CDP is an arbitrarily-named folder with specific contest-configuration contents; see the above reference for details on CDP structure.

### 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 data package (CDP)* 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.

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 file or folder to load from a contest data package archive

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 --p contations>

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.

### --fps

Shows the frame rate on screen.

### --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
$\{ ext{team.name}\}$	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 organization

## Examples:

- -—display\_name "{team.name} ({org.name})"
- -—display\_name "{org.formal\_name}"
- -—display\_name "{org.formal\_name} ({team.name})"

## 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:\myContestCDP --p 1 3 16
```

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

```
client.sh https://contestDataServer 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://contestDataServer 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:

4

Historical comparison

Judge Queue Depth

Shows the contest floor Displays the contest floor

.chart.historical

.chart.queue.depth

#	Name	Id	Thumbnails	Description
6	Judgement time	. chart. judgement. time	Total Problem Submissions  200  200  200  200  200  200  200  2	
7	Languages	.chart.language	10 Obout 1 hour 2 hour 3 hour 4 hour	1
8	Problem comparison	.chart.problem.comparison	Problem A Submissions  10  10  10  10  10  10  10  10  10  1	
9	Problem detail	.chart.problem.detail	Officer 1 hour 2 hour 3 hour 4 hour  Attempts & Solutions by Problem	
10	Problem summary	.chart.problem.summary	270 270 188 188 199 100 101 101 101 101 101 101 101 101	Shows attempts, solutio
11	Scoreboard	.chart.score	Official 1 hour 2 hour 3 hour 4 hour	Shows position of contest

#	Name	Id	Thumbnails	Description
12	Total Problems Clock	. chart. total. problems	Total Problem Submissions  200  200  200  200  200  200  200  2	
			acm Requested Catalan	
13	Contest clock	.clock	Becurity     Network Control     Syreps     Cerreled Control     Centered Control	The contest time remain
14	Countdown	. count down	Status, Co. 1902 2014 "Margina Distribusiva Program Internativa Control Programming Co	A countdown clock for s
15	Polar countdown <b>Fun</b>	.polar		A polar countdown cloc
16	Bill Poucher	.bill		The venerable ICPC Ex
17	Do not touch anything	$. { m doNotTouch}$	Do not touch ANYTHING!!	A pre-contest message f

#	Name	Id	Thumbnails	Description
			*	
18	Fireworks	.fireworks		
19	Mohamed Fouad ICPC	.mohamed	Are you READY?	
			Name of the Control o	
20 21	Balloon Path Commentary	.balloon.path .commentary		Contest floor showing m Displays contest comme
22	Fading Logos	.org.logo.fade		Shows the logos of all or
23	Logo Wall	.org.logo.wall		Shows all organization l
24	Photo and caption	. single. photo		The photo at CDP/pres

#	Name	Id	Thumbnails	Description
25	Photos	.photos	A B C D E F G H 1	A rotating set of photos
26	Problem Colours	.problems.colors	J K L M  A 3 B 22 G 18 D 172  B 106 F 2 G 18 H 0	The problem colors
27 28	Problem summary Single Team	.problem.summary .team	State of the control	A team photo and name
29	Sliding Logos	$. {\rm org.logo.slide}$		Slides the logos of all or
30	Staff Logos and Messages	.staff	Legitive difference in the property of the 2019 World Finals 2019 Porto  Jeff Donahoo  ICPC Deputy Executive Director & Executive Director of the 2019 World Finals	ICPC staff titles
31	CCS	.ccs	Contest Control System  Shadow Verification	The primary (and optio

#	Name	Id	Thumbnails	Description
			{\tilde{C}} ICPC	
32	ICPC Tools	.icpc.tools	Helping to power the ICPC	The ICPC Tools logo
33	Image progression	.imagebuild	600	Fades through a set of i
34	Logo A	.logo	acm International Collegiate Programming Contest  Syontor	Displays the contest log
	G	S		
35	Logo B	$.\log_{10}$		Displays the contest log
			Your message here!	
36	Message	.message	acm international Calabativa IBM Community Contains IBM Contain	A message and contest l
37	Promotions Maps	.promo	The World Finals In Your Hands Personal Interactive Scoreboard Updates from ICPCNews Unarran and Coach Information Interactive World Map	A rotating set of promo

#	Name	Id	Thumbnails	Description
38	Group	.map.group		Shows where groups are
			Tru UII	
39	Submissions	.map.balloon		A world map with team
40	Team Intro	.map.team		Steps through all teams
41	World Scoreboard	.map.world		Map of the world.
			All Region Leaders  St. Petersburg National Research University of IT, Mechanics and Optics  The University of Tokyo  The University of California at Genney  University of California at Genney  The University of New South Water  The University of New South Water  The University of New South Water  The American University in Cairs  4 672	
42	All Groups leaderboard	.leaderboard.group.all	First Solution	
			2011 2 St. Petersburg State University 11 2012 1 Stanford University 15 2013 Antional Taiwan University 10 2014	
43	First solution	.first.solution		Tracks the first solution

#	Name	Id	Thumbnails	Description
44	First to solve	.first.to.solve	First to Solve  5 Peking University  20 University  10 Peking University  10 Princeton University  10 Princeton University  10 Princeton University  10 University of Tokyo  11 University of Tokyo  12 Wassachusetts institute of Technology  11 University of University  12 University of Warsaw  13 Wassachusetts Institute of Technology  14 University of Warsaw  15 Wassachusetts Institute of Technology  16 University of Warsaw  17 Wassachusetts University  18 University of Warsaw  18 Wassachusetts University  24 Wassachusetts University  25 Wassachusetts University  26 Wassachusetts University  27 Wassachusetts University  28 Wassachusetts University  29 Wassachusetts University  20 Wassachusetts University  20 Wassachusetts University  21 Wassachusetts University  22 Wassachusetts University  33 Wassachusetts University  44 Wassachusetts University  45 Wassachusetts University  46 Wassachusetts University  47 Wassachusetts University  48 Wassachusetts University  49 Wassachusetts University  40 Wassachusetts University  40 Wassachusetts University  41 Wassachusetts University  42 Wassachusetts University  43 Wassachusetts University  44 Wassachusetts University  45 Wassachusetts University  46 Wassachusetts University  47 Wassachusetts University  48 Wassachusetts University  49 Wassachusetts University  40 Wassachusetts University  41 Wassachusetts University  42 Wassachusetts University  43 Wassachusetts University  44 Wassachusetts University  45 Wassachusetts University  46 Wassachusetts University  47 Wassachusetts University  48 Wassachusetts University  49 Wassachusetts Wassachusetts  40 Wassachusetts Wassachusetts  40 Wassachusetts Wassachusetts  41 Wassachusetts Wassachusetts  42 Wassachusetts Wassachusetts  44 Wassachusetts Wassachusetts  45 Wassachusetts Wassachusetts  46 Wassachusetts Wassachusetts  47 Wassachusetts Wassachusetts  48 Wassachusetts Wassachusetts  49 Wassachusetts Wassachusetts  40 Wassachusetts Wassachusetts  40 Wassachusetts Wassachusetts  40 Wassachusetts Wassachusetts  40 Wassachusett	Shows which team was t
46	Group leaderboard  Judge queue	.leaderboard.group	Judge Queue  58 Triednich-Alexander-University Erlangen-Nutremberg  5 828  14 Triednich-Alexander-University Français Nutremberg  7 543  7 543  7 543  7 543  88 Jifree University of Tabilal  89 Jifree University of Tabilal  80 Jifree University of Tabilal  80 Judge Character State Char	The judgement queue. $\S$
47	Leaderboard	.leaderboard	1	
48	Scoreboard	.scoreboard	3 241 5 © Princende Viginarity	The current contest star
49	Team Judgements	$. \\ judge. \\ team$	Les Us have Us	A team judgement queu

#	Name	Id	Thumbnails	Description
			Magazin State University   5.5     2   8   On Topic Physics   1     3   1   On Topic Physics   1     4   On Topic Physics   1     5   On Transpire University   1     6   On Topic Physics   1     7   On Topic Physics   1     8   On Topic Physics   1     9   On Topic Physics   1     1   On Topic Physics   1     1   1   On Topic Physics   1     2   On Topic Physics   1     3   On Topic Physics   1     4   On Topic Physics   1     5   On Topic Physics   1     6   On Topic Physics   1     7   On Topic Physics   1     8   On Topic Physics   1     9   On Topic Physics   1     1   On Topic Phys	~ - - -
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50	Timeline <b>Team</b>	. score board. time line	The Makes of Today     The Managem State Uniquestry     The Managem State Uniquestry     St. Pytopologog Systems (Research Uniquestry of IT, Mechanics and Optics	- <del>1</del>
51	Desktop	.icpc.team		Team machine desktop
52	Logo	.icpc $.$ logo		The ICPC identifier.
53	Snake	.icpc.team.snake		Wave based on team lab
54	Sync	.icpc.sync		Flashing ICPC in sync.
55	Video test	.icpc.team.video		A tool to verify video.
56	Wave	.icpc.team.wave		Do the wave!
	Test			
				1
				•
			00 10 20 20 40 60 60 70 60 6	
			ce 1a 2e 2e 4o ee ee 7e ee a	4
			07 17 27 37 47 67 67 77 67 67 67 67 67 67 67 67 67 67	7——————————————————————————————————————
57	Alignment	.test.align	60 10 20 30 40 50 60 70 60 6	A grid to help with proj
			•(	
			Your PC ran into a problem and needs to restart. We're	
			just collecting some error info, and then we'll restart for you.	
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58	BSoD	.test.bsod		A special hello from the
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			37.0 86 30 29.2	
			26.5	
50	CI.	1		A 1
59	Chart	.test.chart	A B C D E F G H I	A test chart
			IOPC 2016 Water France Countries of Control	
60	Clock	.test $.$ clock	Nogaming turns	The current system time

#	Name	Id	Thumbnails	Description
61	FPS	.test.fps	60.0	A frame rate guage
62	Synchronization	.test $.$ sync		A moving ball to test sy
63	Tile Scoreboards Team scoreboard	.tile.team		Team picture with overl
64	Tile list	$. { m tile.scoreboard.list}$	2 Terms Chrocitomes for National Inventory 3 Televier Chrocitomes for National Inventory 4 Televier Chrocitomes for National Inventory 5 Televier Chrocitomes for National Inventory 5 Televier Chrocitomes 6 National Record of Section 19 Televier Chrocitomes 7 Televier Chrocitomes for National Inventory of Televier Chrocitomes 8 National Record of Televier Chrocitomes of Televier Chrocitomes 9 Presting Chrocitomes 10 Televier Chrocitomes 11 Televier Chrocitomes 12 Televier Chrocitomes 13 Televier Chrocitomes 14 Televier Chrocitomes 14 Televier Chrocitomes 15 Televier Chrocitomes 16 Televier Chrocitomes 17 Televier Chrocitomes 18 Televier Chrocitomes 19 Televier Chrocitomes 19 Televier Chrocitomes 10 Televier Chrocitomes 10 Televier Chrocitomes 10 Televier Chrocitomes 10 Televier Chrocitomes 11 Televier Chrocitomes 11 Televier Chrocitomes 11 Televier Chrocitomes 12 Televier Chrocitomes 13 Televier Chrocitomes 14 Televier Chrocitomes 15 Televier Chrocitomes 16 Televier Chrocitomes 17 Televier Chrocitomes 17 Televier Chrocitomes 18 Televier Chrocitomes 18 Televier Chrocitomes 19 Televier Chrocitomes 19 Televier Chrocitomes 19 Televier Chrocitomes 19 Televier Chrocitomes 10 Televier Chrocitomes 10 Televier Chrocitomes 10 Televier Chrocitomes 11 Televier Chrocitomes 12 Televier Chrocitome	A contest scoreboard lis
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65	Tile rank	.tile.scoreboard.rank	22 1 Monardo y Translata 21 0 10 CH Minn Co University of Samos 22 10 Monardo y Translata 21 0 10 CH Minn Co University of Samos 21 0 10 CH Minn Co University of Samos 21 0 10 CH Minn Co University of Samos 21 0 10 CH Minn Co University of Mi	A ranked contest scoreb
66	Tiles	.tile.scoreboard	62 (Whereity of Central Francia gg 300 University of Unive	The current contest star