Technical notes on establishing CIMA's Continental League Cup

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Items in red are issues critical to the entire CLC Scheme.

Items in blue are recommendations for the future, the sooner they are implemented the better.

Changes
v2 : Alterations to calendaring notes.

Introduction

The model for management of the Continental League Cup (CLC) is CIVL's highly successful World Pilot Ranking System (WRPS). However our CLC is sufficiently different in scope and objective that it is not a simple case of just 'plug & play' into their system; we must build our own.

There are nevertheless many similarities between what we must do in CLC and what CIVL actually does, but as we are starting from nothing there are many opportunities to observe and improve on the way CIVL does some things which are quite labour intensive and could be quite easily automated. Notable here are organizer registrations, checking on FAI member status, NAC authorizations, payments online, calendars, checking Sporting Licence (SL) validity and results input.

For the time being all of these things are done manually by CIVL. With hundreds of events each year, they hire an administrator to do this.

Since one of the primary objectives of CIMA's CLC system is to raise funds for CIMA then to maximize this it must also be an objective **not** to have a paid administrator. Of course the system will always need administration, but if as many as possible of the routine and labour intensive tasks can be automated then it would be reasonable to assume this can be done without great burden by volunteers.

As an example, CIVL have had long-standing requests in with FAI Secretariat for automatic access to the SL db and online payments. So far, neither have been realized, but new joint requests from CIMA and CIVL for both of these are currently with FAI.

In the current political climate it is also desirable that as little as possible additional work is loaded onto Secretariat.

The CIVL system

SA = CIVL's paid System Administrator.

Events

The basic 'workflow' CIVL employs in the administration of its WPRS system is as follows:

1) Organiser completes sanction form and emails it to SA.
2) SA checks it and sends a copy to Christine at FAI Secretariat.
3) Christine adds it to the calendar database.
4) At some stage organiser transfers money to FAI account, usually bank transfer but sometimes credit card. (this is often weeks later)
5) Cosette at FAI Secretariat checks bank statements (most days). When a payment arrives she updates the calendar database to show comp as paid.

6) Twice per day there is an automatic scan of the database which adds newly paid competitions to the displayed FAI calendar web page. (hg or pg)
7) SA manually monitors updates to the FAI calendar (tracking spreadsheet). Once a comp is added to the FAI calendar, SA adds it to the WPRS calendar (these are two completely separate calendars). SA also tracks unpaid comps and sends email reminders to the organisers.

Ranking

1) Within 7 days of the end of the event, organizer sends results to SA in one of the specified formats. SA checks results meet minimum criteria and inserts the results into the WPRS system. (For a summary of these see the sanction form)
2) WPRS system shows live ranking.
3) Historical rankings are created by taking a snapshot of live rankings on the first day of every calendar month.

Pilots

1) 'Unknown' pilots enter the WPRS system via either:
    a. A sanctioned event's results
    b. Self registration
and are automatically issued with a permanent CIVL_ID which identifies them as the same person for future results.
2) Once in the system, pilots are invited to 'register' to add detail to their record. The first stage of this always involves entering at least an email address and responding to a time-limited link contained in that email.

    Thereafter they can edit: Name, Gender, Birthday, Email, Option: Let everyone see my email, Phone (pref. one that you can be reached on while at comps), Option: Let everyone see my phone number, Address, Web site, Glider (brand, model and size), Glider main colour(s), Sponsor, Password and Photo.

    It appears nationality cannot be changed by the registered user, and he/she cannot even view what is known about their SL.

    The site notes: *Your email will not be displayed on this site in any form nor will it be used for any other purpose than to validate you as a user of this site. Only Name, Gender and Nationality will be displayed in lists on this site. Birthday is only used internally to differ between persons with same name, gender and nationality.*

Comments on the CIVL system

The WPRS pilot registration system seems very good and appears to be almost identical to the sort of thing CIMA will need in CLC. The only important missing element is a link to the SL db so both pilots and organizers know whether FAI considers they have a valid SL. The WPRS db should be considered a 'minimum' and there is the opportunity for pilots to add other information such as 'next of kin' (someone who should be contacted in the case of emergencies), the year when people say they started flying (useful for statistical analysis) and more biographical information than just a single photo. (Useful for PR handouts Etc.)

And of course as noted on the [WPRS home page](), the whole thing could be extended to become a tool for pilots to enter competitions online which could be a great help to organizers by handing them properly spelt lists of names, nations, SL licences Etc. and other 'add-on' features such as Pilot biography PR handouts, Pilot ID cards Etc.

There is no point in examining the event registration workflow process in too much detail since it is obvious there are many ways this could be improved by better integration with external processes, particularly those administered by FAI Secretariat. What should be analysed are the essential elements:

1) Organizer registers event with key details: NAC approval, National Aero Club, Title of Event, Discipline, Task style, Dates, Country and Location (and distance from nearest large town), Organizer, Contact name(s), Address, Phone, Fax, E-mail, Website address, Sanction fee.

2) There must be a maintained list of FAI/IOC country codes combined with their current FAI status (ie Member or not, which can sometimes be discipline related).

3) Sanction fee, equivalent to one entry fee (min EUR 20) must be paid to FAI minimum one month in advance of the event.

4) Event details are published to the World on FAI calendar and WPRS Ranking system calendar minimum one month in advance of the event.

5) Event details are only published after the sanction fee is paid.

6) So long as all entrants are given the opportunity to get their money back, events can be rescheduled in the period more than 30 days before the event.

7) Results must be provided within 7 days of the end of the event.

8) Minimum required results information is: Name (First name followed by family name), Nation (IOC abbreviated codes), Total (score), Valid_FAI_licence (number), CIVL Pilot_ID (available from the WPRS ranking database).

9) Pilots in the WPRS system have a WPRS unique id (their CIVL_ID).

10) 'Unknown' pilots enter the WPRS system either via self-registration or via a sanctioned event's results, which ever occurs first.

11) The obligation to check SL validity appears to lie with the organizer of the event.

Ideas to automate the essential elements

1) Event registration

This can be done all online with open submission - except for one thing: NAC authorization: Events must have the approval of the National Aero Club (NAC) of the organiser in order to be sanctioned as Category 2 and if the event is to be held in the territory of another NAC then the organiser must also obtain authorization from that NAC.

Solution: On the basis a NAC appoints a Delegate and an Alternate delegate to a commission, then it would appear reasonable they should have the authority to do this, or in any case will have the wherewithal to contact their NAC HQ if they don't. The email addresses of these

delegates are known, it is therefore perfectly practical for an automatic email to be sent to them containing a 'yes to authorization' callback link embedded in it. When the event is authorized the organizer is informed and can continue with the registration process.

Recommendation: Someone has to maintain the list of delegates and their email addresses. In the case of CIMA this is already maintained in the CIMA wiki and it can be accessed securely via the wiki's API. It -should- be maintained centrally by FAI Secretariat as part of a global 'permissions control system' strategy. This issue was first raised with Secretariat in late 2009 and indeed they already have a free unlimited-user community licence for Atlassian Crowd but it is completely unknown if anything like this constitutes part of Secretariat's long-term planning; quite possibly they don't know themselves.

2) ***FAI member status***

This is something which is maintained by FAI in text form as a pdf but this is about the least useful format for such data.

Recommendation: Secretariat to maintain it in a single place in a useful format. Options include Google Gadget format or as stock xml data and simply transform it with an xslt stylesheet for viewing on the FAI website. The same source data can be accessed by other systems for their own purposes.

In the meantime this will have to be maintained manually by administrators of every system, it doesn't change very often.

3) *Sanction fee*

As soon as an event is authorized by the appropriate NAC(s) a message is sent to the organizer inviting him to complete the registration process by paying the sanction fee. This is done online and as soon as payment is received the event is effectively sanctioned as a Category 2 event.

FAI General Section 3.5.2 seems to imply NAC authorization is all that is needed to sanction a Cat. 2 event, then it can be included in the FAI calendar.

Since the event is also a CIMA CLC event, so long as there is a '*yes I agree to the terms and conditions of the CIMA Continental League Cup'* check box on the event registration page it could be assumed the act of receipt of payment is automatic sanction. If positive authorization is deemed necessary this can be built in to the same process as NAC authorization, and before payment is made.

Since the sanction fee is either a minimum amount or the entry fee (which ever is greater) the entry fee must be advertised in the calendar so all competitors are aware of what it is and can report back to CIMA if the organizer charges something different on-site.

To do: Set up an online payments system. Paypal is a cheap and flexible solution and should work something like this:

a. Secretariat establishes a business account with PayPal registered with a suitable primary email address and a STRONG password. The account should be verified against the appropriate FAI bank account. (This can take a bit of time).

b. Secretariat sets up a CIMA dedicated email address eg cimaPayments@fai.org the recipient should be the person in Secretariat responsible for accounting (eg Cosette) and sets up this as a [sub-account](#) of the main FAI account.

c. There are a number of settings which need to be made and these can be explained in detail if required, but in principle the system PayPal call Encrypted Web Payments (EWP) should be used in conjunction with Instant Payment Notification (IPN).

   Briefly;
   EWP is a method of deeply encrypting a number of variables in the CLC server before they are passed to the PayPal server with the user for payment. The user pays the fee on the Paypal website and is them passed back to the CLC server.

   In some cases payments may not be authorized by the payee's card immediately, but IPN is an asynchronous system which keeps the CLC server updated on transactions so that when a payment is complete the CLC server can take the appropriate actions, eg send an email or update the calendar.

d. Paypal retains transaction histories for three months online, and has many options for extracting account statements.

e. Withdrawal of funds to FAI's bank can be done on a consolidated basis at regular intervals (eg monthly) and is without cost.

4) Calendars

The wiki calendar, like nearly all calendars ([except the FAI one](#)) exports data in [iCalendar](#) format. It can also subscribe to external calendars in this format.

The iCalendar format is very simple and it is easy to automatically maintain a CLC events calendar file from a CLC management system.

This means a CLC calendar can be embedded in the wiki which instantly and automatically reflects the current status. People can also subscribe to the CLC calendar in outlook or their mobile phone and changes are similarly reflected instantly.

An automatic email can be sent to Secretariat when an event is added to the CLC calendar for them to add it manually to the FAI calendar.

Note: *The earlier notes about Google Calendars were made before it was appreciated that when they are externally embedded as a gadget then they are always read-only. Of course a Google Calendar could be subscribed to the CLC iCalendar file but this is no longer necessary since wiki calendars can be subscribed to the same thing just as easily.*

Recommendation: FAI make iCalendar files available for their calendars. Either directly from the existing system, or they move their calendars onto an external calendaring system such as Google's so people can subscribe to them in their own applications eg. Outlook, iPhone, Etc.

5) Pilot registrations

As noted above the CIVL model is very good and something very similar should be implemented.

a. There must be a link to the SL db so both pilots and organizers know whether FAI considers a pilot has a valid SL.

b. There is also the opportunity for pilots to add other information such as 'next of kin' (someone who should be contacted in the case of emergencies), the year when people say they started flying (useful for statistical analysis) and more biographical information than just a single photo. (Useful for PR handouts Etc.)

To do: Get the exact structure of the WPRS db so it can be replicated in the CLC db. This will make it easier to merge the two databases should FAI ever decide such a thing would be a beneficial exercise.

6) *Results collection*

An organizer must be able to load results automatically.

a. He has a login to the CLC db associated with the Event registration.

b. Auto reminders must be sent as soon as an event is over, and daily until the results are loaded, the organizer declares the event was abandoned, or the deadline is reached.

c. Required data: The CIVL model is OK but there must be the addition of one extra field associated with elective teams: Pilot Name (Given_Name and Family_name), Nation (FAI/IOC 3 letter codes), Total (score), Valid_FAI_licence (number), CIMA Pilot_ID (number), Elective_Team_ID (number).

Since the objective is to collect data for the investigation of a future ranking scheme, the score is required, not a position or a CLC score value; the CLC score value is calculated by the CLC server.

Also for a future ranking scheme, the organizer must be asked how many tasks were run during the event.

d. Format: some sort of 'Spreadsheet format' is required. Unfortunately there are an increasing number of formats; Microsoft now have .xlsx as well as .xls, and there is also OpenOffice .ods. All of these can be parsed online but there are many potential hazards, notably those associated with localization, so it is probably much easier to ask for .csv files which can be easily exported from all well known spreadsheet programs and the act of doing this removes most of these problems.

e. Format checking: Before results are permanently loaded into the CLC db the organizer must be presented with a processed 'view' of the data which explains any errors encountered in the loaded data and suggests ways to fix this.

f. Sporting licences: Since:

   i. These events will often, even usually, have last-minute entrants and at this stage of an event organizers have a million better things to do than check the SL db for valid licences.

ii. These events are national events. There is nothing to say entrants MUST have SLs to participate in the event, only they do not feature in the CLC results without one.

Then organizers cannot be relied on to check SL validity but there will often be a number of people in results who don't have one. It must therefore be implicit that the system actively checks for SL validity before a result is added to the CLC db.

To do: Since the SL db can change at any moment, a 'cache' of SL db data is useless, it requires some form of active link to the SL db.

To do: It is still not known how the SL db can be automatically checked, ie the most reliable method the CLC db could find entries in the SL db.

i. Pilot names are the least reliable since it is known NACs often produce spellings different to the one a pilot uses or an organizer may put in his results, or they use different accents or no accents, or they reverse the given_name and family_name.

ii. A SL db unique ID is probably the best solution, but it is not known how 'unique' entries really are in the SL db and what checks and maintenance is done to eliminate duplicates. There is also the problem that FAI currently has no protocol which requires this unique ID to be replicated on the physical licence or for the pilot to otherwise know it.

iii. A compromise is to use a combination of Discipline, SL number (the one issued by a NAC and on the pilot's physical SL) and NAC country code. This assumes NAC's never issue duplicate SL numbers which are simultaneously valid, and for reliable searches requires the implicit removal of extraneous formatting information from the SL db's record of a NAC's number such as spaces and all other non-printing characters.

Recommendation: FAI introduces the requirement that the FAI unique ID of a pilot is reproduced on a Pilot's physical Sporting Licence. This will have two benefits: It serves as a guarantee to the pilot that his NAC really has registered the pilot in the SL db (though it still doesn't guarantee it is for the appropriate discipline) and it provides organizers with a much more reliable method of checking SL validity.

g. Once the data is confirmed correct, the data is loaded to the CLC db and the current CLC results updated.

7) *Event results calculation*

The method of calculating an event's results is well known and was published in the original proposal. However there are two possible ways it can be realized:

i. The positional score is only calculated from amongst the sub-set of competitors who have currently valid SLs.

ii. The positional score is calculated from all competitors whether they have a SL or not.

Consider the following table of results:

Pilot name	SL (1 or 0)	Pilot score	CLC rank (all pilots)	CLC score (all pilots)	CLC rank (Valid SL pilots only)	CLC score (Valid SL pilots only)
No pilots		32			22	
Pilot 1	0	3000	1	30		
Pilot 2	0	2900	2	25		
Pilot 3	1	2800	3	22	1	30
Pilot 4	1	2700	4	20	2	25
Pilot 5	1	2700	4	20	2	25
Pilot 6	1	2500	6	18	4	20
Pilot 7	0	2400	7	17		
Pilot 8	1	2300	8	16	5	19
Pilot 9	0	2200	9	15		
Pilot 10	0	2100	10	14		
Pilot 11	1	2000	11	13	6	18
Pilot 12	1	1900	12	12	7	17
Pilot 13	1	1800	13	11	8	16
Pilot 14	1	1700	14	10	9	15
Pilot 15	0	1600	15	9		
Pilot 16	1	1500	16	8	10	14
Pilot 17	1	1400	17	7	11	13
Pilot 18	1	1300	18	6	12	12
Pilot 19	1	1200	19	5	13	11
Pilot 20	1	1100	20	4	14	10
Pilot 21	0	1000	21	3		
Pilot 22	0	900	22	2		
Pilot 23	1	800	23	2	15	9
Pilot 24	1	700	24	2	16	8
Pilot 25	1	600	25	2	17	7
Pilot 26	0	500	26	2		
Pilot 27	1	400	27	2	18	6
Pilot 28	0	300	28	2		
Pilot 29	1	200	29	2	19	5
Pilot 30	1	100	30	2	20	4
Pilot 31	1	100	30	2	20	4
Pilot 32	1	100	30	2	20	4

While Pilot 1 will get no score in the CLC table because he has no SL, the question is, should Pilot 3 get 30 points or 22 points? It could be argued that 30 points is a winning score, but he came third, and there is no incentive for that pilot to suggest to pilots 1 or 2 they should get a SL, and there's even no evidence of what score they 'might' have got if they did have one.

If Pilot 3 gets 22 points, then this is a better reflection of the overall result of the event, and although Pilots 1 and 2 wouldn't get a CLC score what they 'could have scored' can still be displayed as an incentive for them to get a SL.

On balance it is probably better to implement the **second option**. CLC scores should reflect the reality of the event, but only pilots with SL's actually get included in the CLC results calculation.

8) CLC results calculation

Once an event's result is calculated then it is fairly straightforward to publish the current standing as published in the original proposal.

Unlike with a ranking system there is no need for time-related 'freezes' to occur in a League except when it comes to the end of the year and you have the final results.

9) Results display

Results must be made available in a form which is available to all users.

a. Three sets of results: Individual, National Team and Elective Team.

b. Results must be made available in Google Gadget format. Gadgets are attractive because they can be embedded in the CIMA wiki but you can easily add them to any ordinary website you can put them in libraries like Google's and on your iGoogle home page

and, if you have Google Desktop installed, you can also add gadgets to your computer's desktop. Gadgets are also supported by gMail, Yahoo, Facebook Etc. Etc.

Other issues

URL

Plainly the CLC system will need a URL. A lot of the administrative functions can be embedded in the CIMA wiki but none the less things like Scores Gadgets Etc. which can be embedded in any web page will need a permanent URL. Of course any existing one will do, or CIMA could acquire something like cimaCLC.org but the best solution would be for it to be part of the FAI domain just as the WPRS is at civlrankings.fai.org

Recommendation: FAI establishes a new URL at **cimaclc.fai.org**

Continents

Since this is a Continental competition, it should be noted that an October 2010 CASI decision has allowed Commissions to define their own Continents. Since this is mad, it is proposed the standard FAI definitions should apply (General Section 3.5.4).

There is perhaps a case for combining continents into one League, for example the Americas, but this can be decided later.

One question does arise: What if a NAC decides to organize an event in another continent? In this case standard FAI rules should apply, it is done under the flag of the 'Organizing NAC' and hosted by the 'Controlling NAC'. If Luxemburg decided to organize a CLC event in South Africa then it would be a European event, but it would need permission from the South African NAC to occur.

Trophies & Diplomas

The original proposal states CLC Diplomas should be awarded at the CIMA Plenary following the end of a League year.

To do: In association with Secretariat CIMA must prepare these Diplomas!

As this is a Continental League **Cup** it could be desirable to have trophies too, but since it is unlikely the winners will be at the Plenary there would be all sorts of problems distributing them. For the time being Diplomas are enough.

Conclusion

The CIMA Plenary agreed to original proposal which states this must all be in place by the end of January 2010. It is a big job.

CIMA can and will get on with this now, but to avoid possibly a great deal of duplicated work there are a number of important technical issues raised above which **must be answered by Secretariat as soon as possible.**