General Assembly

Minutes of the Meetings held in Brisbane, Australia
6–13 July, 2013

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1. Welcome

- Peter Taylor welcomed the members of the GA to IOI-2013.
- Professor Ole Warnaar was presented to the GA as the chair for IOI-2013.

2. Apologies

Apologies were received from Albania, Cuba, Ghana, Jordan, Libya, Moldova, Nigeria, Syria and UAE.

3. Presentation and confirmation of GA agenda

The agenda for the GA meetings was approved.

4. Appointment of scrutineers for voting during GA meetings

In accordance with the usual IOI procedure, it was proposed and approved that those past chairmen of IOI who were present should act as scrutineers.

5. Competition procedures

- The Chair of the Host SC, Ben Burton, was introduced and presented the competition procedures.

  - The official competition rules had been simplified and were much shorter.
  - All tasks in IOI-2013 would have full feedback. Full feedback would be automatic—release tokens would no longer be required.
  - The ordering of testcases would be randomized across submissions. In all but one task, the sample input would be given as a separate subtask with a single testcase.
  - To restrict the load on the server, there would be a limit of 100 submissions per task during the contest and a minimum time limit of 1 minute between submissions for each task. The minimum time limit between submissions would not apply if there was a compilation error.
  - Since there was automatic full feedback, there would be no test environment. Evaluation machines were identical to contestant machines, so contestants could test their code locally.
  - As in IOI-2012, the questions would be distributed electronically to contestants, rather than on printed sheets in sealed envelopes. Contestants would be able to print copies of the questions if needed.

- A student's final score for each task would be the maximum score across all submissions for that task.
    - The C compiler for the competition had been updated to `gnu99` that supports the C99 standard. However, C++11 would not be supported due to technical issues.
    - No passwords would be required to log in. Screens would be locked till the contest began. Before the contest started, each computer would display the photo of the contestant allocated to that computer.
- The competition procedures were approved unanimously.

6. Call for Nominations for IC and ISC

- Two IC positions and one ISC position were due to be filled during the current IOI.
- The ED announced that the closing date for nominations for the IC and ISC positions would be the start of the GA meeting before the second competition day.

7. Confirmation of the Minutes (IOI-2012)

The GA minutes from IOI-2012 were confirmed unanimously by the GA.

8. Details for IOI Conference

The GA was informed that the *Olympiads in Informatics* conference would take place in parallel with the two competition days, in the same hall where the GA meetings were being held.

9. Issues arising from practice session

- There was a request to install the newer `unity` interface in addition to the classic `gnome` interface. This was not possible due to the limited graphics capabilities of the contestants' machines.
- Some contestants requested help with configuring keyboard layouts and setting up projects in `CodeBlocks` and `eclipse`. The Host SC announced that it would be not able to provide such assistance during the contest.
- Some contestants had attempted to probe the network using `ping` and `ssh` during the practice session. All contestants should be warned that such network activity would attract a penalty, as announced in the competition rules. Any difficulties faced with respect to the network should be reported to the organizers for diagnosis.
- In general, the only action permitted to a contestant in case of a problem was to restart the computer. If this failed to resolve the issue, the contestant was expected to contact the organizers.
- Some minor problems were reported with delivery of printouts. Some installed applications were not compatible with the printing software. The Host SC recommended that contestants should use `evince` to print task statements and `gedit` to print source code.
- All clarifications during the exam would have to be submitted in writing on the clarification form.
- Since there was a submission limit for each task, there was a request to add a counter to report the number of submissions available in each task. The Host SC promised to add such a counter.
- There was a complaint that the online documentation for Pascal was difficult to locate. This would be placed on the desktop for the actual contest.
- There was a question about dependency of subtasks. The Host SC clarified that subtasks were independent of each other. In some cases, the parameter constraints across subtasks may be orthogonal.

10. Presentation of Tasks for Competition Day 1

- Ben Burton, Chair of the Host SC, introduced the procedure for the presentation of tasks. Following the format in recent years, an initial period would be given during which major objections could be submitted, to be followed by a vote to accept the entire problem set. Minor objections could be submitted until the ISC and Host SC froze the tasks later in the evening.
- Unlike previous years, a brief summary would be displayed on screen about what each task was intended to test.
- There were two major objections, to the tasks *Art Class* and *Wombats*.

  - For *Art Class*, it was pointed out that many students may not be aware about how to mix colours. The Host SC agreed to provide information about how to use auxiliary applications like `gimp` and `pinter` for experimenting with colours.
    A concern was expressed that colour-blind students may face a disadvantage. In the discussion that followed, this was felt to not be a problem.
  - For *Wombats*, the complaint was that the task statement was too long and complicated. The Host SC felt that this was not the case.

- After a discussion on the major objections, a vote was taken and the GA voted to accept the task set as a whole. There were over 60 votes in favour, 5 against and 8 abstentions.
- The translation system was based on MediaWiki, like IOI-2012. However, the system would accept translations generated through any mechanism, not just MediaWiki. Each country was supposed to select a primary language in which to distribute the tasks to its students on the desktop. All translations would, however, be available to all students. Some sample contestant machines would be available to check the appearance of fonts.

11. Report on Competition Day 1

- The contest began an hour late due to delays in pushing contest data onto all student machines. This was due to the large volume of translations (all translations were made available to all students) and the large image files provided as sample data for the task *Art Class*.
- A major problem was encountered with the grading system during the contest. Due to a combination of the problem specifications (time limits and size of test data) and some internal settings in the CMS grading system, some submissions took a long time to evaluate and this resulted in grader machines being wrongly diagnosed by the grading system as "faulty". A cascade of such diagnoses brought the grading process to a halt.
  This resulted in problems with feedback after the first hour of the contest. During the first hour, full feedback worked normally. In the second and third hours, evaluation was delayed as queues built up. After the third hour, only *Art Class* was evaluated.
  The contest was extended by 30 minutes for all contestants. Two students who did not receive appropriate translations of the question paper until 30 minutes into the contest were given an additional 30 minutes.
  To reduce the load on the evaluation server, the minimum time limit between submissions was increased from 1 minute to 15 minutes. The 1 minute limit was restored towards the end of the contest.
  Announcements were made in the examination hall and also posted on the competition webpage to inform students about the situation.
- The impact of the lack of feedback was most for the task *Art Class*, which had been designed to be solved with full feedback. The ISC had analyzed all submissions to *Art Class* and presented the following facts.

  - There were three full scores on Art Class in the first hour, and all of them were on the first attempt.

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- A graph was shown that plotted the accuracy of each solution on the sample data against the accuracy on the test data used for evaluation. The graph showed a significant correlation between the performance on the data available to the students locally and the unseen data on the server.

Based on this, the ISC recommended that it was reasonable to retain the scores for *Art Class* in particular and the contest as a whole, though the ISC acknowledged that the day's contest was not fair due to the technical failures.

- There was an intense discussion in the GA about how to deal with the results from the first competition day. During the debate, the following alternatives proposed by various members were considered, with several opinions voiced for and against each of them.

  1. Disregard the first competition day and base the final results on the second competition day alone.
  2. Reduce the overall weightage of the first competition day in the final score.
  3. Determine the final score for each contestant based on the best 4 out of the 6 tasks across the two competition days.

- There was a general consensus that the decision on the first day's results should not be postponed, so that students would have a clear idea of what was expected of them on the second competition day.
- The GA first voted on the following proposition.

  The ISC proposes that no changes to the scores will be made as the result of the lack of feedback during day 1.

  This proposal was rejected by the GA, with 30 votes in favour and 34 votes against.

- It was then agreed to collect proposals from the GA on how to combine the results from the first and second competition days in the final score and vote among the options proposed.

  The following options were proposed.

  - The scores on day 1 and day 2 should be weighted in the ratio 80 : 120.
  - The scores on day 1 and day 2 should be weighted in the ratio $\frac{1}{3} : \frac{2}{3}$.
  - The scores on day 1 and day 2 should be weighted in the ratio 100 : 100.
  - The scores on day 1 should be cancelled and only day 2 scores should be used.
  - The scores on day 1 and day 2 should be weighted in the ratio 90 : 110.

The GA Chair announced that the five options would be evaluated through approval voting. Each member was free to vote for zero or more options. After the first round of voting, there would be a second round of approval voting among the two options receiving the largest number of votes in the first round.

The first round of voting produced the following results.

Keep day 1 and day 2 scores in the ratio 80 : 120	28 votes
Keep day 1 and day 2 scores in the ratio $\frac{1}{3} : \frac{2}{3}$	16 votes
Keep day 1 and day 2 scores in the ratio 100 : 100	38 votes
Cancel day 1 scores	14 votes
Keep day 1 and day 2 scores in the ratio 90 : 110	17 votes

A second vote was taken with the two options receiving the largest number of votes in the first round. The results of the second round of voting were as follows.

Keep day 1 and day 2 scores in the ratio 80 : 120	32 votes
Keep day 1 and day 2 scores in the ratio 100 : 100	36 votes

Based on this, the final decision was to retain the scores from day 1 as they stood.

- Due to the delay in reporting the results, it was announced that examination of results and submission of appeals for the first competition day would take place at the end of the second competition day.

12. Summary of Written Appeals for Competition Day 1

The appeals for the first competition day (submitted after the second competition day) were as follows.

- A contestant from Australia had submitted a correct solution to *Art Class* but got 0 points.

  It was found that he had not used the problem interface correctly. The appeal was rejected.

- A contestant from Latvia had submitted two solutions to *Wombats*. One submission solved subtask 2 correctly while the other solved subtasks 1 and 4 correctly. The contention was that, with feedback, these two solutions could have easily been combined to get a better overall solution.

  The solution that solved subtasks 1 and 4 was submitted just over one minute from the end of the contest, hence there would not have been enough time to combine the two solutions. The appeal was rejected.

- A contestant from Croatia had wrongly submitted a solution for *Art Class* to another problem. The compilation error was not reported due to the lack of feedback.

  The solution was moved to the correct problem and evaluated. The contestant's score was revised from 0 to 38.

- A contestant from the United Kingdom had submitted a solution to *Wombats* at the end of the contest that was not accepted for evaluation.

  The contest logs reported that the submission was made after the contest had ended. The appeal was rejected.

- A contestant from Sweden had submitted a solution to *Wombats* with a trivial error that caused the memory limit to be exceeded. This could not be fixed due to the lack of feedback.

  The solution exceeded the memory limit by a large amount and the contestant should have been able to realize this even without feedback. The appeal was rejected.

- Canada had submitted an appeal for *Dreaming* that was not recorded by the Host SC. Canada was advised to resubmit the appeal.

13. Presentation of tasks for Competition Day 2

- There was a major objection to the task *Game* from Poland. It was felt to be too similar to standard material used by the Polish team during training for IOI.

  In addition, Australia pointed out that a brute force solution for *Game* worked within the stated time limits. This was confirmed by the Host SC.
- Two solutions were proposed by the Host SC to deal with these major objections.

  – To change the test data and memory limits to ensure that brute force solutions were ruled out and to make the final subtask more challenging for those who had seen similar problems before.
  – To use one of the backup tasks in place of this task.

  It was agreed to distribute a backup task and postpone the vote on the issue.
- The proposed backup task, *Rubble*, also attracted major objections. Thailand had used exactly the same task in training. Norway reported that one subtask had been used in another contest. Japan argued that the task was too standard and not interesting.
- The Host SC felt that the other backup tasks would not be suitable replacements for *Game* because they were much easier.
- The ISC announced that it had been working on the proposed modifications to *Game* and that no unexpected problems had been encountered.
- A vote was taken to retain *Game*, with suitable modifications. The motion was passed, with 45 countries in favour, 4 against and 19 abstentions.
- A vote was then taken on the task set as a whole. The motion was passed, with 52 countries in favour, none against and 12 abstentions.

14. Report on Competition Day 2

There were two major technical issues with the second competition day.

- For some time, both the original (incorrect) and revised (correct) versions of the task *Game* were available on contestants' machines. The incorrect version was on the desktop while the problem folders had the correct version.

  This anomaly was detected and corrected one hour before the end of the contest. For those who attempted to solve the problem with the incorrect version, the trivial solution would have appeared to pass within the stated limits but would have failed to do so on the grader. Also, the final subtask would have been harder than originally stated.

  In the discussion that followed, it was agreed that changing the problem statement at the last minute should be avoided and backup tasks should be used instead.

- There was an error in one of the testdata files for *Robots*. This was detected 20 minutes from the end of the contest, based on a query from a student who had detected an error using `assert` statements.

  An initial assessment showed that about 50 students were affected. An announcement was made to all students to stay on the floor to await a decision on the impact of the error. However, students started moving around the floor and discussing the exam. Hence, it was not possible to award extra time to any of the contestants.

  On later analysis, it was found that 15 contestants had submissions that were directly affected by this error. For 3 contestants, the maximum score submission was affected and they each got 25 additional points. For most students, the next submission within a minute or two fixed the problem. In the Host SC's assessment, 4 students were affected significantly by the error and lost 30–70 minutes searching for a nonexistent bug in their code.

  In a show of hands, 12 countries reported that one or more of their students were affected by the error in the testdata for *Robots*.

- There was a discussion on the need to make announcements available in languages other than English, especially since spoken English is difficult to decipher for many non-English speakers.

  The Host SC replied that the aim was to minimize oral announcements. All announcements were also put in writing on the contest system and oral announcements were primarily to draw attention to the written announcements.

15. Summary of Written Appeals for Competition Day 2

The appeals for the second competition day were as follows.

- There were several appeals related to the incorrect task description for *Game* being available during the contest.

  It was felt that there was no clear way to determine the degree of disadvantage to individual students. Hence no extra time or compensation would be awarded.

- One contestant received a printout with some material printed on the reverse. This was due to some scrap paper being left in the printer during testing. The material printed on the reverse was from a technical paper on graph theory and was not useful for the competition.

- For two contestants from Iran, at the start of the contest, the contest clock on the computer incorrectly displayed that the contest would run for 5.5 hours.

  This was an oversight arising from the fact these contestants had been granted 30 minutes extra time the previous day. The appeal was disallowed.

16. Report by President

- The President reported that he had been focussing his efforts on removing the communication bottlenecks within the IOI community, especially between the IC and the GA. The IC minutes were available on the IOI website and contained details about the discussions behind many of the decisions. Efforts were underway to revamp the IOI website and wiki and make information available in a timely manner.
- There had also been significant interactions with the local organizers during the past year to clarify organizational and procedural issues connected with IOI.

17. Report by Executive Director

- The Executive Director (ED) served as the point of contact for new countries wishing to take part in IOI, as also for receiving enquiries from potential future hosts of IOI.
- The ED was in charge of coordinating electronic discussions within the IC on matters arising between IC meetings.
- Along with the President, the ED had also helped coordinate with the local organizers regarding operational issues connected with IOI.

18. Presentation by candidates for IC and ISC

- The following candidates filed their nominations prior to the deadline.

    - IC (two positions): Ricardo Anido (Brazil), Mile Jovanov (Macedonia), Krassimir Manev (Bulgaria), Eslam Wageed (Egypt)
    - ISC (one position): Jakub Lacki (Poland), Giovanni Paolini (Italy)

- All candidates were given two minutes to introduce themselves to the GA. Information on all the candidates, which had been supplied on their nomination forms, was distributed to the GA.

19. ISC and ITWG report

Fredrik Niemelä, Chair of the ISC, presented the ISC report.

- The IOI-2013 survey was ready and all delegations were strongly encouraged to fill it out. These surveys have been very helpful for the ISC to plan its activities.
- The GA was requested to check the IOI Syllabus regularly for updates.

    There was a discussion on whether the IOI Syllabus is an official document. It was pointed out that the GA had declined to make it an official document. The syllabus was currently a tool for the ISC to communicate its intentions to the GA. The GA was free to react and express its disagreement if some proposal was not to its liking.

- Based on the results of the IOI-2012 survey, the tasks for IOI-2013 were licensed using the Creative Commons CC-BY license so that the tasks were freely available for use by all.
- The ISC had discussed the official programming languages for IOI.

    - There was no proposal to remove any existing language. In particular, Pascal was still used by a number of contestants and there were no serious technical issues with supporting Pascal.
    - The Host SC for IOI-2014 was looking into the feasibility of including Java as an official language for IOI-2014. Unfortunately, their final report would be available only after the last GA meeting during IOI-2013.
    The GA voted to allow the use of Java for IOI-2014 if the ISC deemed it to be appropriate to do so.
    The GA further voted that the ISC should to inform the GA about the status of Java in IOI-2014 by 31 October, 2013.

- The ISC was also looking into the possibility of including Python as an official language in IOI. However, it was much harder to align execution times in Python with other languages. It may be possible to include Python without any time guarantees, but this was still under discussion.
- In response to a question about support for the C++11 standard, the ISC pointed out that this was difficult because there was no compiler available that supported the full standard. The ISC would be willing to include the subset of C++11 and C11 supported by `gcc`.

- There was a request to have a better mechanism in place to provide feedback to those who submit tasks for IOI about the status of submitted tasks.

Martin Mareš, Chair of the ITWG, presented the ITWG report.

- There were no major changes to the IOI infrastructure since IOI-2012.
- All members of the GA were encouraged to subscribe to the moderated mailing list `ioi-announce`, used for IOI-related announcements.

  Separate mailing lists were being maintained for IC and ISC discussions.
- The IOI Wiki had moved to a more stable location at `http://wiki.ioinformatics.org` and was available for reading by all. Though the Wiki was a promising idea, it had not been used much. Discussions were on with members of the IC on how best to integrate the Wiki with the IOI website to maintain and disseminate information about IOI.
- Two developments were reported regarding contest software.

  - A new system was being developed for managing a large number of machines. This would be useful for contest organizers. A report was presented at the IOI Conference 2013.
  - The new sandbox developed last year was stable and in active use. It was also used during the 2013 ACM ICPC finals.

- Automated verification of task descriptions was a priority item.

  - Automated formal verification would catch random errors in test data, incompatibility with problem constraints etc. Some procedures were in place, but these need to be packaged into a tool that was as automated as possible.
  - One important step towards this goal would be to develop a common task format for task statements, solutions, testdata and a validator, so that this data could be fed to the automated verification tool.
    It was noted that the ACM ICPC does have such a system in place.
    A common task format would also make it easier to archive tasks and reuse them in training.

20. Financial statement for preceding year

Eljakim Schrijvers, the Treasurer of IOI, presented the financial statement for the preceding year.

- The interest accrued in the IOI account was higher than budgeted.
- As in previous years, the budget allocated for ISC and ITWG was not spent because ISC and ITWG members were able to meet their expenses on their own. As agreed in 2012, this money was shown as having been spent, and compensated for in the financial statement as sponsorships from the parent organizations of ISC and ITWG members.
- The IOI Workshop planned for 2012–2013 was not held. However, it was planned to definitely organize a workshop in 2013–2014.
- All other expenditure was as budgeted.
- The financial statement was audited by a subcommittee of the GA headed by Ries Kock. The auditors certified the accuracy of the accounts and commended the Treasurer for his work.

21. Registration fee for IOI-2014

The GA voted in favour of retaining the registration fee for IOI-2014 at € 200.

22. Budget for forthcoming year

Eljakim Schrijvers presented the budget for the forthcoming year.

- The budget for the IOI Workshop, unused in 2012–2013, was carried over to 2013–2014.
- There was a question about paying travel expenses for the Executive Director just to write minutes of meetings. The President clarified that the ED had many other responsibilities including communication with countries and coordinating with local organizers.
- There was a question about allocating € 5000 for the IOI website. It was clarified that this was not just to maintain the existing website, but also for other related activities such as the IOI database being developed by Eduard Kalinicenko (see item **28.** in these minutes).
- The budget was approved by the GA. There were no votes against and 6 abstentions.

23. Regulation changes

Richard Forster described proposed changes to the regulations. These would be formally drafted and voted on by the GA during IOI-2014.

- All references to the Board of Patrons would be removed from the regulations.

  In a related matter, the current regulations (S2.7) mention invited guests from UNESCO, IFIP and the Board of Patrons (one each). This would be reworded to allow no more than three invited guests, in cooperation with the host country, but without any specification of the organizations represented by the invited guests.
- The regulations would be amended to include a clause obligating the host country to provide final scores of all contestants along with all supporting data about scores in tasks and subtasks. This data should be provided to the IC (the Office of the ED) and to the ISC.
- The post of Treasurer would be recognized in the regulations, thereby formally confirming the situation that exists in practice. The duties of the Treasurer would be spelled out and various clauses currently in the regulations pertaining to finances would be modified appropriately.
- The approval voting procedure, currently described only for elections with n ($n > 1$) positions, would be extended to cover all voting by the GA on items with n options.

  A separate note would be added about how abstaining votes are accounted for when a simple majority vote is taken.
- The medal allocation algorithm would be formally incorporated in the regulations.

24. Election of IC members

- In the election for the two vacant IC positions, 69 votes were cast.

  - 32 delegations approved of Ricardo Anido.
  - 31 delegations approved of Mile Jovanov.
  - 30 delegations approved of Krassimir Manev.
  - 35 delegations approved of Eslam Wageed.

- Ricardo Anido and Eslam Wageed were elected to the IC for three year terms.

25. Election of ISC members

- In the election for the three year ISC position, 73 votes were cast and there was 1 abstention.

    – 60 delegations approved of Jakub Lacki.
    – 20 delegations approved of Giovanni Paolini.

- Jakub Lacki was elected to the ISC for a three year term.

26. Proper usage of national symbols in closing ceremony

The GA were reminded to inform their students not to bring flags and large mascots onto the stage during the awards ceremony.

27. Results and confirmation of medals

- The medal allocation algorithm was used to determine the medals.
- The number of official contestants was 299.
- 25 gold medals, 50 silver medals and 74 bronze medals would be given.

28. Proposals from GA members

- Eduard Kalinicenko from Latvia made a presentation on his project to build and maintain an IOI database and integrate it with the IOI website.

  One of the principal aims of the project was to collect accurate information about all IOI participants—delegation leaders, deputy leaders and team members—along with a record of medals and scores, wherever available.

  Another goal was to collect together in one place complete information about all IOI tasks, including statements, solutions, test data and checkers. There was also a plan to build and maintain a public grader for all IOI talks, which would probably be integrated into an existing platform such as `CodeForces`.

  In future years, the database could also be integrated with the registration system to acquire information about participants with minimum errors.

  So far, the IOI database project had been developed and maintained personally by Eduard Kalinicenko. The IC has sanctioned some funds for this project this year as part of the budget allocated for developing the IOI website. The IC would look into the proposal in more detail to assess more clearly the future directions of the project.

- The President of IOI, Richard Forster, received a request from some members of the GA asking for a plan to prevent technical issues like the ones that were encountered during the IOI-2013 contest from occurring in the future.

  Richard spoke to representatives of the ISC and the Host SC. A summary of their discussion was as follows.

    – The ISC and Host SC are working on a document to clearly demarcate the boundary between ISC and Host SC responsibilities, which is not very clear at present. This document will be made public as soon as it is ready.

      However, for several years, the Host SC and ISC have worked together harmoniously. Even during IOI-2013, both current and past members of the Host SC and ISC offered a lot of support to deal with technical problems.

    – There were some suggestions to restructure the two committees, perhaps increasing the numbers and allocating more specific roles. This was under discussion.

- The ISC and Host SC made some specific strong recommendations in light of the problems faced during IOI-2013.

    * One should avoid making major changes to tasks at the last minute. This, of course, does not rule out minor reformulations of task statements.
    * There should be better coordination between the scientific and technical teams in the Host SC. In particular, testdata should be available well in advance for running on the grader to measure performance.

- An in-depth enquiry would be made into the specific technical failures that occurred during IOI-2013 and the details would be formally recorded so that the IOI community would not lose the knowledge gained from this experience.

- The Chair of the ISC, Fredrik Niemelä, accepted that, in addition to errors in the problems and systems during the contest, there were also errors made in the way these errors were handled by the ISC. Overall, there should have been a better preparation for crisis management, with a clear indication of who was in charge of making decisions.

This was followed by a lively discussion in the GA, in which the following points emerged.

- Full feedback clearly increases the risk of problems. The ISC needs to clarify what happens when there are problems with full feedback. Some rules should be built into the regulations to deal with emergency situations. The ISC should also consider going back to a regime with limited feedback—for instance, through release tokens.

- The current level of risk management for IOI is inadequate. The ISC and IC should work towards identifying and predicting possible risks, rather than merely looking at problems that have arisen in the past, and come up with solutions to maintain a fair competition. An unfair competition discourages the contestants and dilutes the value of the results.

- There was a question on whether the IC, representing the GA, should play a more active supervisory role concerning the technical aspects of IOI. The President clarified that the IC's role is not to make technical decisions. However, the IC should certainly communicate more regularly with the ISC and the Host SC to ensure that preparations are going well.

The discussion ended with the following observations by the Chair of the Host SC, Ben Burton.

- Discussions were ongoing between the Host SC, the ISC and the future hosts to analyze the technical problems encountered during IOI-2013.

- While the problems on day 1 were technical in origin (task time limits, testdata size, grader configuration), most of the problems on day 2 could be attributed to human error.
  In retrospect, it was a mistake to make changes to the task *Game* at the last minute and the Host SC should have used a backup task instead. Fatigue from day 1 led to further mistakes which resulted in the errors encountered during the second contest day.

- Finally, Ben confirmed the good communication, interaction and mutual respect between the Host SC and ISC in recent years. He acknowledged that the ISC had been working well and had been very helpful. He also thanked many members of the GA who helped the Host SC cope with the problems on the second competition day.

• Israel proposed the setting up of a formal mechanism for countries to participate officially online in case they had genuine difficulties in attending IOI.

Several points were raised in the discussion.

- This provision should not become an easy excuse to not send a delegation to IOI and yet participate officially. The rules for when this provision should be granted should be made very clear.

– The issue of supervision needs to be considered. The IC would have to appoint a neutral observer to monitor the contestants who were competing online.

It was agreed that the discussion and final decision should be postponed to the following year. However, an informal show of hands indicated that the GA was in favour of having such a mechanism.

The IC and ISC agreed to look into the administrative and technical aspects of the issue and put forward a proposal at IOI-2014.

29. Announcement of future host

The IC received proposals from two excellent candidates for hosting IOI-2017. After a long discussion, the IC voted to accept the proposal from Iran to host IOI-2017 in Tehran.

30. Other business

- The Chair of the Host SC, Ben Burton, formally thanked all the external authors who contributed tasks to IOI-2013. These were Mehdi Bouaziz, Mathias Hiron, Kazuhiro Hosaka, Giovanni Paolini, Farhad Shahmohamadi and Monika Steinová.
- Germany proposed a formal show of support and approval to appreciate the effort of the entire organization behind IOI-2013. The proposal was strongly endorsed by the GA.