

A Lost Opportunity

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On May 31st IM Vasik Rajlich, the programmer and owner of the Rybka chess program, published an “Open Letter and \$100,000 challenge to FIDE President Kirsan N. Ilyumzhinov”. Vasik’s letter referred to the excellent results that Rybka has achieved, both in tournaments and in various computer rating lists, and his challenge was this:

“In the spirit of open competition, I am formally offering a \$100,000 computer chess challenge from Rybka to FIDE, who will be represented by the winner of the Ultimate Computer Chess Challenge 2007. My challenge consists of a 24 game match, at classical time controls, on unlimited hardware and with unlimited opening books, held at 2 games per day over twelve days, with Rybka giving a **handicap of one point plus draw odds** and thus requiring a score of 13 out of 24 or better to win the match. The prize fund of \$100,000 should be a winner-takes-all, loser-pays-all proposition.”

And referring to the match in Elista in early June, between Junior and Fritz, which was dubbed “The Ultimate Computer Chess Challenge 2007”, Vasik proposed that:

“As the Ultimate Computer Chess Challenge 2007 takes place during the Candidates Matches in Elista, it is appropriate that the winner's match vs Rybka be played in Mexico between September 12 and October 1, 2007, during the FIDE World Chess Championship. Gens una Sumus.”

I wish to state at the outset that I have the highest possible regard for Vasik, whose program recently won the World Computer Chess Championship in Amsterdam. What I report here is in no way intended to be a criticism of Vasik or his program.

Late last month the Junior programmers, Amir Ban and Shay Bushinsky, were approached with the suggestion that such a match indeed take place in Mexico City, during the period of the World Chess Championship tournament in September. Initially 12 games were suggested, subsequently changed to 10. The match would not give Junior a one point handicap, as suggested by Vasik, nor would Junior receive draw odds. The match would be played on completely level terms.

FIDE supported the idea, as did the Mexican hosts and organizers of the World Championship tournament, with the Mexicans kindly offering to provide a playing hall and to cover the costs of travel and accommodation for two members of each programming team, as well as the expenses for the match arbiter. As to the \$100,000 prize fund, Vasik’s representative, Sergey Abramov, stated that his company, Convekta Ltd., which is the distributor of Rybka, would guarantee the \$100,000, so that if no other sponsor could be found, the money was still assured. On this basis negotiations commenced between Sergey, representing Rybka, and Amir and Shay, representing Junior. I had been suggested by FIDE as the match arbiter, I had been accepted as such by both sides, and was therefore brought in to assist with the negotiations.

Initially there appeared to be four issues to discuss during the negotiations. The proposed dates were far from ideal for the Junior team, for various personal reasons, so they suggested October/November as an alternative time frame. But Sergey made the point that these dates were important to FIDE, and the Junior team therefore accepted them. Then there was the question of whether or not there should be tie-break games if the score was 5-5 after ten games. Sergey wanted a tie-break, but the Junior team did not. I advised the Junior team that I supported the idea of a tie-break, and again they agreed. Then there was a question about how the guarantee for the prize fund would be implemented in practice. It was suggested to Sergey that the money be deposited in an escrow account, to which he agreed. This left the fourth, and biggest issue – whether the computers used for the match should be on-site or remote (connected via the Internet).

Playing such an important match on the same computer configuration that one uses for developing one's program has clear advantages over using a different computer for the first time, especially for programs that run on multi-processor hardware. It can also be a logistical nightmare and a very costly exercise to have powerful hardware brought in to the match venue – in New York, for example, for Junior's match with Kasparov in 2003, the match organizers spent in the region of \$30,000-\$40,000 on the hire of the hardware. In Mexico City the match would have needed two computer systems which, with an allowance for inflation during the past four years or so, could easily have doubled the cost of the event. Then there is the problem of needing to have engineers available at all times during the match, to ensure that the hardware is running smoothly and to deal with any faults and problems immediately they occur. With a remote computer running from one of its manufacturer's facilities, the availability of engineers is ensured. With on-site state-of-the-art computers, such availability is subject to the other constraints on the company that is hiring out the computers. These are just some of the reasons why the Junior team very much prefer to run on remote computers, to which they can have access from any location where there is an Internet connection. Furthermore, and this is a very important point indeed, the use of remote computers has been very much the norm throughout the history of computer chess competitions, from the earliest ACM Computer Championship in New York in 1970, and through all of the ICCA and ICGA world computer championships, right up to this year's World Computer Chess Championship in Amsterdam. Indeed, Rybka itself ran on a remote computer during the Amsterdam event, which it won.

There is yet another point that supports the Junior team's desire that both programs run on computer systems as powerful as the programming teams can arrange. When initiating the Fritz vs Junior match in Elista, Kirsan Ilyumzhinov indicated his preference that the best possible computer systems be employed, in order to achieve the highest possible level of chess by both programs. This is why both programs in Elista were running on remote computers. And the same argument holds for the proposed match in Mexico City.

In an e-mail from Amir to Sergey, the Junior team expressed its feelings on this issue thus:

“Regarding machines, we object on several levels. We played in Elista with a 16-core Caneland machine provided by Intel over the internet and situated in one of their facilities in the UK. The machine was available for us for preparation for weeks before the tournament. Getting the machine up and running at the playing hall was no harder than typing a web address, and the same was true for maintenance from the hotel room. The Intel people in the UK could do machine troubleshooting 24-hours a day at their facility, if necessary. We now filed a request Intel to provide a similar setup for the proposed match. If they agree, it would not make sense for us to play on a weaker machine than available and than we played in Elista. So:

The location of the machine locally is actually a drawback for us, and will be very expensive for someone (in our match against Kasparov I believe the organizers paid \$30-40K for renting and transporting machines and having a technician on-site for two weeks). We need the machine online and available at a professional site where nobody needs to worry about it.

The machine needs to be available online weeks before the match (in the Kasparov match, the machines were set up online at Atlanta for two weeks before being flown to New York. During this period the hardware provider changed machines 3 times because they were unstable).

Regarding equal hardware, there is no precedent for such a match or tournament, but I don't think you will have problems in getting a 16-core machine for Rybka. If you wish, we will put in a further request for you with Intel.”

I supported the Junior team's position on this issue, emphasizing that it is absolutely normal to use remote computers for important computer vs computer chess events.

Sergey's initial response included the suggestion that the use of remote computers would introduce the possibility of cheating, by:

“Ability to use other engine or set of other engines.

Ability using help of team of computer experienced players.

Book cheating. Human can play opening stage using databases much better than engine.”

Sergey then went on to say:

“Surely we don't have suspicions that this can be in the match. We just want to use rules that exclude such possibilities.”

Sergey's fear of cheating overlooks a few crucial facts, including: [a] it would be absolute madness to even try to cheat, especially at the fast time control that had already been agreed for the match (all moves in 60 minutes, plus an increment of 20 seconds per move); [b] in order to cheat it would be necessary to have a very strong human player who could interfere with the analytical processes of the program and then doctor the logs in order to hide what had been done; [c] to have a human cheating while the program is still in its openings book would be physically impossible, since the program would be moving instantly; [d] to do all of the above over a ten game match would be taking a huge risk, much more likely to make the program play worse, rather than better.

The Junior team stood firm on its position and, after a few e-mails back and forth, Sergey accepted their position subject to there being some controls in place to assuage his fears regarding cheating. The mechanism for this would be the provision of log files and copies of the programs, by the programming teams, to the arbiter, after each game. The idea was that, if anything untoward appeared to be happening, the program actually used in the match could be tested, and the log files examined. On July 24th Sergey sent me an e-mail saying:

"I'd like to specify the item on providing log file and program, which took part in the match.

The referee and the other side should have the opportunity to test the game of the program during the match.

"We agree, that log file can be provided not during the match itself, but immediately after it's ending. We also need ordinary commercial version (for example, Junior engine for Fritz interface and Rybka UCI engine) to check the way, the log file during the game was got. This version should be analogous to that one, which took part in the match."

The Junior team did not like this proposal one little bit, as the data could be used to allow the programmer of Rybka or other future opponents of Junior to learn some useful information that could be used in preparation for a future match or tournament. So what Sergey was asking for would require Amir and Shay to make an important commercial concession. Furthermore, Sergey's request represented an unprecedented change in the manner in which top computer vs computer chess events have been conducted in the past. Nevertheless, the Junior team did not shirk the challenge and they were still trying to bring the match to fruition. So they decided to accept Sergey's proposal, and on July 26th Amir wrote the following in an e-mail to Sergey, in which the Junior team also agreed to yet another of Sergey's requests, namely that neither side could use more than 16 cores (computer processors):

"The limit to 16 cores is fine.

I am of the same mind as David as the uniqueness of your request for program executables, and bring to your attention that it was not requested by Kasparov against

us (the terms there called for depositing the executables with a neutral supervisory committee). However, in the interest of moving this show on the road, we will broadly agree to this, as follows:

Executables for each game in the regular match will be placed with the arbiter for safekeeping after each game, by each participant. If the executable is unchanged from last game, the arbiter will be so told. After the match, the arbiter will be authorized to give each participant the opponent executable from any game requested.

Executables will be given to the request opponent under confidentiality, with no permission to publish, distribute or use them except for the intended purpose.

Game logs will be recorded and given to the arbiter after each game. He will provide them to the requesting opponent under the same conditions as for executables.

The loss of a game log, or part of it, through machine crash, bug or operator error in good faith will be reported to the arbiter and will be treated as force majeure.

The arbiter will not disclose to the opponent whether participants changed their executables until the end of the match.

All requests for executables or logs must be done within 14 days of the end of the match.

Hopefully this is all agreeable to you and we can get this show on the road!"

After the Junior team decided to agree to this major point of Sergey's negotiating position, they and I truly believed that we had now overcome all of the problems in the negotiations, and that a match contract could be drawn up and signed very quickly. We were all therefore completely taken aback by Sergey's e-mail to Amir, later that same day, which started in a positive vein but which included yet more requests:

"We are grateful to you for suggested variants on control system, when each side can request log-file for any game after the match.

We need to come to agreement on the procedure of result's considering. I suggest the following scheme.

- the sides have the rights to get from referee the log-file (log-file should include pv-variants for each depth at each move) on any number of games, starting from the last playing day of the match (within 14 days only)

- in case of request from any side on additional checking in the day of the match's ending, the sides and referee appoint the meeting on the next day or current day (the time is defined by both sides). In this meeting the side, which was requested, is obliged to show the analysis of positions pointed by program version, which took part in the match. It's necessary for checking the log-file.

- in case one side is avoid considering the request or providing the log-file (except Force Majeure cases), or in case log file while checking has serious differences with log file, provided before, the other side by referee's consent will get the right to publish provided log-file of rival's side and to demand for review of the match's result."

The Junior team felt that Sergey was going much too far, and Amir responded the following day with their comments on some of Sergey's suggestions. Regarding Sergey's statement that a demonstration of analysis is "necessary for checking the log-file", Amir responded:

"This is within the authority of the referee. You have the right to make complaints to the referee. How to handle your complaint is at the referee's discretion. I don't expect the referee to launch an investigation unless you show sufficient grounds, and certainly you cannot demand an investigation.

I suggest we authorize the referee to seek neutral professional help if he thinks he needs it."

And as to Sergey's suggestion for what to do "in case one side is avoid considering the request or providing the log-file (except Force Majeure cases), or in case log file while checking has serious differences with log file", Amir wrote:

"Again this is the referee's domain and not up to any of the contestants. Providing logs is a rules requirement. That a program behaves differently on reconstruction than in a game is a common occurrence that is usually meaningless. I expect something much more concrete to be quoted as evidence of wrongdoing, such as clear footprints of a different program. The decision is anyway entirely up to the referee. You do not have right to publish the logs or to claim something other than the referee's ruling.

The logs are provided for transparency and to rest minds at ease that the match is fair. I certainly do not want this to be the start of a pandora's box of discussion in public about what each contestant thinks the logs should say but don't, and if this is going to be the result, it defeats the very purpose of exchanging this information."

Amir and Shay were clearly hoping for a reasonable response from Sergey, but later on July 27th they and I received a bombshell – the negotiations had taken a new turn, backwards:

“Dear Amir and David,

I consulted with several chess experts for the recent days.

The majority of them mark that for the current moment every playing program will be defeated if some strong program and grand master play against it (the best proof is several closed training games of Mr. Morozevich, where he won).

After scandal which took place in the match Kramnik-Topalov none of the experts can exclude computer’s help to human if there is no special control.

In the contrary case, if experienced grand master helps program, the program will defeat any other program without grand master.

There is no clear procedure of checking the fact, who plays the game - the program itself or the program with “assistants”. The variant of considering the protests after the end of the match can be the reason of number of scandals both with ground and without it. The working out of formal principles require time.

Taking it into consideration, any remote game can’t exclude human’s participations in every stage. We are willing to carry out game with absolutely equal and open conditions with highest possibility to control.

-both sides can either get two similar computers from INTEL or bring their own ones (we agree for both variants)

-delivery costs of computers to Mexico is less than prize fund in dozens of time and can’t be a problem for participants (the weight of such a computer doesn’t exceed 40 kg)

Our consent for remote game can be the cause for disputes and scandals almost for sure. All these can spoil the match and be the source of doubt in the match’s result.

That’s why we ask you to agree for ‘face-to-face’ match in Mexico. Every other variant won’t solve completely the problem of control (including human’s assistance) and therefore they are unacceptable for us.

If you don’t agree for “face-to-face” game in Mexico at equals (the computers are for your option), we will have to break the negotiations on the match Rybka - Junior.

Please, do answer within 3 days, not later than 30 of July.”

I attempted to remonstrate with Sergey, reminding him that his requests were unprecedented and pointing out that the Junior team has enjoyed an unblemished reputation for honesty throughout its career in the world of computer chess. But it was to no avail. On the morning of July 30th we received Sergey’s final word on the matter:

“I’m sorry that the sides failed to come to an agreement and the match Rybka - Junior won’t take place.

I’d like to remind you one more time, that the prize fund would have been provided by Convekta Ltd and we were ready to do it only if we had confidence that this match would take place with total control on the playing of the sides. “

It is very sad for the chess world that these negotiations have broken down. My own view is that the Junior team had moved a very long way from their initial position, in their attempts to enable this match to take place, only to be thwarted by new requests which they feel are unreasonable to the point of being unacceptable. A match between Junior and Rybka is a prospect relished by chess fans all over the world. Let us hope that in the future a different sponsor will be found, one who accepts the standard practices that have served the world of computer chess for the past 37 years, since the very first computer vs computer tournament. The recent match in Elista had the very same conditions as the Junior team were expecting for Mexico City – a prize fund of \$100,000, and Internet connections to permit the use of remote computers.

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