REPORT ON THE 13TH CSA WORLD COMPUTER-SHOGI CHAMPIONSHIP
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1. INTRODUCTION

Again the Kazusa Academic Park in Kisarazu was the venue for the computer shogi championships. Already the 13th edition and definitely one of the biggest games events in the world. The number of participants had dropped slightly to 45 compared to 51 last year. This may be in part because of the date of this tournament, which is in the middle of one of the few major holidays in Japan.

This year my program SPEAR and the North Korean program KCC were the only foreign entries. Unfortunately Jeff Rollason had to pass on the tournament this year, as he was in the process of starting up a new company and couldn't find the time to come to Japan (or even work at his program Shotest). The programmers of KCC also had decided not to show up themselves this tournament and their program was operated by two Japanese operators from the company that publishes the commercial version of the KCC program. This was probably a wise decision as the relations between Japan and North Korea are quite strained at the moment over the abduction of Japanese citizens by North Korea in the past and the Korean nuclear program. There were even fears that there might be demonstrations at the tournament venue, but computer shogi turned out not to be big enough to draw the attention necessary for having an effective demonstration. Or maybe the demonstrators couldn't find the Kazusa Academic Park...

I was quite optimistic entering the tournament. I had somehow managed to find quite some time to work on my program and made many improvements. Test results showed that my program was much better than last year's version. It even regularly beat Todai Shogi, the commercial version of multiple champion IS Shogi. I was lucky to be again seeded in the second preliminary round despite dropping out last year. I was optimistic that I would be able to defend this seeded position this year. A realistic goal seemed to be a majority of wins and I was secretly hoping to get into the finals with a little bit of luck. Things would not go as planned.

2. THE FIRST PRELIMINARY STAGE

Most eyes in the first preliminary round were on the program TACOS, made by the students of Hiroyuki Iida's lab in Shizuoka. It didn't have spectacular results in past years, but last year they seemed to have made some kind of breakthrough as they scored an upset win in the Olympiad against IS Shogi and followed this up with strong play in a small computer shogi tournament at the Game Programming Workshop. TACOS did not disappoint. It got second place in the first qualification round with six wins and one loss. TACOS was especially strong in the endgame, where it managed to come from behind two or three times. It only lost in the final round against Sogin.

Sogin won the first qualification group and this was also not a big surprise. Sogin is a regular in the Computer Shogi Championships, playing in the final a couple of times. Last year, Sogin programmer Koizumi couldn't come to the tournament because of work-related reasons, but his

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No.	Program Name	1	2	3	4	5	6	7	Pt	SOS	SB	MD
*1	Sogin	9+	3+	7-	5+	6+	8+	2+	6.0	35.0	30.0	20.0
*2	TACOS	22+	15+	19+	4+	9+	10+	1-	6.0	26.5	20.5	13.5
*3	Bingo Shogi	8+	1-	18+	26+	14+	4+	10+	6.0	25.0	19.0	13.5
*4	K-Shogi	6+	24+	17+	2-	10+	3-	9+	5.0	29.5	17.5	11.0
*5	Mattari-Yuu-chan	15+	20+	12+	1-	7+	6-	16+	5.0	28.5	17.5	10.0
*6	Ootsuki Shogi	4-	16+	26+	12+	1-	5+	11+	5.0	27.5	16.5	11.0
*7	Nazoteki Dengi	24+	21+	1+	11+	5-	9-	8+	5.0	27.0	18.0	10.5
+8	Oki	3-	12+	23+	18+	13+	1-	7-	4.0	29.5	12.5	6.5
+*9	Kinoa Shogi	1-	25+	24+	13+	2-	7+	4-	4.0	28.5	11.5	5.5
10	Suzu no Ne	25+	18+	11+	14+	4-	2-	3-	4.0	27.5	10.5	5.5
11	Fuku Shogi	16+	23+	10-	7-	19+	14+	6-	4.0	24.5	10.5	5.5
12	Maruyama Shogi	20+	8-	5-	6-	22+	19+	17+	4.0	24.0	10.0	5.0
13	Sugi Shogi	14-	22+	25+	9-	8-	17+	15+	4.0	20.0	9.0	5.0
14	Yamada Shogi	13+	17+	16-	10-	3-	11-	20+	3.0	26.5	9.5	3.0
15	Sexy-AI-chan	5-	2-	20+	22+	17-	16+	13-	3.0	25.5	7.5	2.5
16	Toshizo Shogi	11-	6-	14+	24+	18+	15-	5-	3.0	24.0	7.0	2.5
17	Demon Shogi	26+	14-	4-	19+	15+	13-	12-	3.0	22.0	6.0	2.5
18	Ujiie Shogi	23+	10-	3-	8-	16-	20=	22+	2.5	23.5	4.0	0.0
19	Ryuma Shogi	21+	26=	2-	17-	11-	12-	24+	2.5	21.5	4.0	0.0
20	HIT Shogi ver.0.01	12-	5-	15-	21+	25+	18=	14-	2.5	21.0	3.5	0.0
21	Suzuki Shogi	19-	7-	22-	20-	26+	24=	25+	2.5	15.0	1.5	0.0
22	Tsubakihara Shogi	2-	13-	21+	15-	12-	23+	18-	2.0	24.0	4.5	0.0
23	GPS Shogi	18-	11-	8-	25+	24-	22-	26+	2.0	15.5	1.5	0.0
24	Nagayoshi Shogi	7-	4-	9-	16-	23+	21=	19-	1.5	24.0	2.0	0.0
25	Narikin Shogi Step 1	10-	9-	13-	23-	20-	26+	21-	1.0	19.5	0.5	0.0
26	Sunada Shogi 4	17-	19=	6-	3-	21-	25-	23-	0.5	22.0	0.0	0.0

Table 1: Results of the First Qualification Round.
* Sogin, TACOS, Bingo Shogi, K-Shogi, Mattari-Yuu-chan, Ootsuki Shogi, Nazoteki Dengi, and Kinoa
Shogi qualify for the second qualification round.
+ Kinoa Shogi qualified because Oki withdrew.

program is generally considered to be very strong.

Third place in the group was for Bingo Shogi, a new program that played this tournament like shogi
programming is easy. More on Bingo Shogi later, as it became the surprise of the tournament.

The other programs that qualified for the second stage were K-Shogi, Mattari-Yuu-chan, Ootsuki
Shogi, Nazoteki Dengi and Kinoa Shogi. K-Shogi and Mattari-Yuu-chan (a program from professor
Kotani's lab) were also first entries. Kinoa Shogi was very lucky to qualify for the next round, since
the final spot was actually taken by Oki. However, Oki's programmer had to withdraw because of
sudden severe stomach aches (the stress of shogi programming?) and couldn't operate his program
on the second day. Kinoa Shogi would make the most of this opportunity by playing much better on
the second day than on the first day.

3. THE SECOND PRELIMINARY STAGE

The second preliminary round was not expected to be a surprising one. The general opinion was
that YSS, Kanazawa Shogi, Kakinoki Shogi, and Eisei Meijin would probably qualify (in that order
of likelihood) and there would be only one spot left to really fight for. Candidates for this spot would
be KFEnd, Hyper Shogi and maybe Ryu no Tamago, who barely missed qualification last year.

The first round went almost completely as expected, but the second round saw a big upset as YSS
lost to Usapyon. However, since all the other games went as expected and the third round also didn't
have any major surprises, nobody was really prepared for what was to come.

The fourth round will not be a pleasant memory for Kakinoki Shogi and Kanazawa Shogi. Kakinoki

Shogi was beaten by TACOS, while Kanazawa Shogi lost to Ootsuki Shogi. In itself these were not insurmountable losses, but they proved much more costly than YSS' loss against Usapyon.

After round five there were no more undefeated programs, as Eisei Meijin lost to KFEnd. With a little more than half of the tournament played, the situation at the top was:

1) Kakinoki Shogi, Eisei Meijin, YSS, KFEnd, Hyper Shogi 4
6) Kanazawa Shogi, Ryu no Tamago, Usapyon, SPEAR, Sekita Shogi, TACOS, Bingo Shogi, K-Shogi, Otsuki Shogi 3

At this point, SPEAR was still in the thick of it, and it had already played Eisei Meijin and Hyper Shogi.

In round six the status quo seemed to be restored, as Kanazawa Shogi beat Hyper Shogi. All the other favorites won, except for Kakinoki Shogi, which lost against co-leader Eisei Meijin.

Starting with round 7, the pairing system used in this tournament started to really influence the results. Rather than pairing programs with relative weak opposition to programs with strong opposition, it kept pairing the higher seeds against each other. First victim was Kakinoki Shogi, which was paired against KFEnd and YSS in round 7 and 8, lost both games and had no chance of qualification one round before the end. The loss against TACOS did Kakinoki Shogi in and the program ended in 8th place despite a huge SOS.

Kanazawa Shogi also had a tough pairing in the final rounds, but their fate was even more heartbreaking. The five times world champion had a completely won game in the final round against KFEnd, but allowed entering king and lost. After the game there was a stunned silence. The unthinkable had happened: no Kanazawa Shogi in the final.

TACOS also had reasons to feel bad about their pairing. They were paired against all the top programs, had even more SOS than Kakinoki, but still only finished in 7th place. A great performance by Iida's students, which deserved more than just a pat on the back. They were probably the most improved program this year and if they can keep this up, who knows what will happen next year.

Where there are people unlucky with the draw, there are people who are lucky as well. Most notably was Bingo Shogi, which sneaked into the final through the backdoor. It timed its losses perfectly, played only KFEnd, Eisei Meijin and Hyper Shogi and with a final round win against Sekita Shogi managed a 6-3 score and a lot of SOS points more than Isobe Shogi, the other program at 6-3. Isobe Shogi is a strong program as it showed in a final round victory against Eisei Meijin, but it was hardly tested as Eisei Meijin was the only strong program it played.

In the end KFEnd won the second qualification group with YSS in second and Eisei Meijin in third place. The other two programs that qualified for the final were Bingo Shogi and Hyper Shogi 9.

And what about SPEAR? Hmmm. After a 3-2 start it lost four games in a row. None of these were uneventful losses, but some general strategic weaknesses of the program were painfully exposed. In the end SPEAR finished even lower than last year, which was disappointing, but also shows how much the average playing level of the programs has increased.

4. THE FINALS

After all the drama of the second day, the finals were a little bit of a disappointment as there were no real surprises. Of the programs that qualified from the preliminary round only YSS made a strong impact. However, YSS can hardly be called a surprise, winning the tournament in 1997 and finishing runner-up in 1999 and 2000. Last year's bad result was more of a surprise than YSS' performance this year.

From the start, the finals were a race between IS Shogi and YSS. YSS had set the pace early with a win in the first round against Gekisashi. Both programs kept their perfect record for four rounds, even though IS Shogi had a major scare in its game against Eisei Meijin.

No.	Program Name	1	2	3	4	5	6	7	8	9	Pt	SOS	SB	MD
*1	KFEnd	22+	13+	4+	2-	3+	7+	8+	11+	9+	8.0	47.0	39.0	30.0
*2	YSS	24+	14-	7+	1+	10+	15+	3+	8+	5+	8.0	43.0	39.0	31.0
*3	Eisei Meijin	20+	5+	13+	4+	1-	8+	2-	9+	6-	6.0	51.0	29.0	20.0
*4	Bingo Shogi	11+	18+	1-	3-	6+	14+	20+	5-	10+	6.0	46.5	26.5	17.5
*5	Hyper Shogi 9	17+	3-	15+	20+	7+	9-	11+	4+	2-	6.0	46.0	27.0	18.0
6	Isobe Shogi	7-	21+	24+	13-	4-	10+	16+	20+	3+	6.0	36.0	21.0	15.0
7	TACOS	6+	12+	2-	8+	5-	1-	9-	16+	13+	5.0	51.0	24.0	14.0
8	Kakinoki Shogi	18+	11+	16+	7-	9+	3-	1-	2-	12+	5.0	49.5	22.5	14.0
9	Kanazawa Shogi	10+	16+	21+	15-	8-	5+	7+	3-	1-	5.0	46.0	23.0	14.0
10	Sekita Shogi 9	9-	23+	12+	16+	2-	6-	14+	17+	4-	5.0	44.0	19.0	12.0
11	Ryu-no-Tamago	4-	8-	22+	21+	13+	20+	5-	1-	15+	5.0	42.0	17.0	10.0
12	Kinoa Shogi	21-	7-	10-	23+	19+	24+	13+	14+	8-	5.0	31.5	13.5	9.5
13	Nara Shogi	19+	1-	3-	6+	11-	17+	12-	15+	7-	4.0	46.5	17.5	8.0
14	Usapyon	15-	2+	17-	22+	21+	4-	10-	12-	20+	4.0	41.0	17.0	6.0
15	Ootsuki Shogi	14+	24+	5-	9+	20-	2-	17+	13-	11-	4.0	39.0	13.0	8.0
16	Shoo	23+	9-	8-	10-	18+	22+	6-	7-	19+	4.0	38.0	12.0	6.5
17	K-Shogi	5-	20-	14+	18+	22+	13-	15-	10-	23+	4.0	34.5	12.5	6.5
18	Yano Shogi 6	8-	4-	23+	17-	16-	21-	19=	24+	22+	3.5	30.5	5.0	2.0
19	Nazoteki Dengi	13-	22-	20-	24+	12-	23+	18=	21+	16-	3.5	27.5	5.0	2.0
20	SPEAR	3-	17+	19+	5-	15+	11-	4-	6-	14-	3.0	44.5	11.5	4.0
21	Aoi10000+	12+	6-	9-	11-	14-	18+	23-	19-	24+	3.0	34.0	8.5	3.5
22	Sogin	1-	19+	11-	14-	17-	16-	24+	23+	18-	3.0	34.0	5.5	2.0
23	Mattari-Yuu-chan	16-	10-	18-	12-	24+	19-	21+	22-	17-	2.0	31.0	3.0	0.0
24	Oojiro	2-	15-	6-	19-	23-	12-	22-	18-	21-	0.0	38.0	0.0	0.0

Table 2: Results of the Second Qualification Round.
* KFEnd, YSS, Eisei Meijin, Bingo Shogi, and Hyper Shogi 9 qualify for the finals.

No	Program Name	1	2	3	4	5	6	7	Pt	SB
1	IS Shogi	5+	8+	7+	6+	2+	4+	3-	6.0	17.5
2	YSS	3+	4+	6+	8+	1-	5+	7+	6.0	16.0
3	Gekisashi	2-	7+	8+	5=	4-	6+	1+	4.5	10.5
4	KCC Shogi	8+	2-	5=	7=	3+	1-	6+	4.0	7.5
5	Hyper Shogi 9	1-	6+	4=	3=	7-	2-	8+	3.0	3.0
6	KFEnd	7+	5-	2-	1-	8+	3-	4-	2.0	2.5
7	Eisei Meijin	6-	3-	1-	4=	5+	8-	2-	1.5	3.0
8	Bingo Shogi	4-	1-	3-	2-	6-	7+	5-	1.0	1.5

Table 3: Results of the Finals.

The fifth round was already more or less the tournament decider with IS Shogi beating YSS. All the other programs were already far behind. Gekisashi lost against KCC, ending all hopes of a second consecutive title. KCC also wouldn't win, as a bug in the program made it happy with a draw by repetition of moves even if its position was much better and the repetition could be avoided easily. This bug led to draws in the games against Hyper Shogi and Eisei Meijin.

IS Shogi sealed the tournament victory one round before the end with a win against KCC. In the end, this turned out to be a vital win, as IS Shogi lost its final game against Gekisashi, allowing YSS to catch up. For those who believe that machines have no emotions, it is interesting to notice that it is the second year in a row that the winning program loses in the final round after being sure of the tournament victory.

Both IS Shogi and YSS ended with 6 wins, but IS Shogi had the higher SB score to take the title. The important third place went to Gekisashi, whose win against IS Shogi was just enough to send the Koreans back to the preliminary rounds. The Gekisashi team will be very happy about that, since the preliminary round is starting more and more to look like a snake pit.

5. CONCLUSIONS

The level of play in this tournament was very high. Reasonable programs with only minor flaws (like SPEAR) will have no chance to get a good result in the computer shogi world championships. Tactically, there is not much room for improvement in computer shogi. The improvements needed to challenge professionals are mainly about strategy. However, even in this area it is already difficult to surprise the best programs.

The Gekisashi algorithm has had many followers and has resulted in a tough competition where veteran programs like Kakinoki Shogi and Kanazawa Shogi are no longer certain of a spot in the finals. This will only help to find further improvements and enhance the level of play. There still seems to be a gap between the top three or four programs and the rest, but I wouldn't be surprised if that gap would be closed by next year.

As for challenging the top human players, this goal is still a little beyond the horizon. However, it is no longer a question of "if", but a question of "when". After the tournament was over, Katsumata played a two piece handicap game against IS Shogi. IS Shogi scored a very good victory, which is a significant result. Beating a professional one on one with two piece handicap is no small feat. Furthermore, Katsumata is an expert on computer shogi, following the tournaments for years. He knows how computers play shogi and how to take advantage of this. My prediction: two years before computer programs can beat professionals in quick games and a Deep Blue-Kasparov like performance in 2010 (this might be the 1996 match rather than the 1997 match, though).

6. THE PROGRAMS

IS Shogi : Losing the title to Gekisashi last year might have stung Tanase, Kishimoto and Goto a little. They came back strong and are again at the top of the computer shogi world.

YSS : A comeback year for YSS after the disappointing 2002 tournament. Yamashita will be happy with his result, but he might have another look at the game against Usapyon.

Gekisashi : Tsuruoka's group couldn't repeat their success this year. They revolutionized shogi programming with their realization probability approach but now suffer the consequences. The other programmers have studied hard and are catching up.

KCC Shogi : The KCC team can point to the sennichite bug as the reason for their slightly disappointing result. However, they wouldn't have won anyway as they lost to both YSS and IS Shogi. At the moment it seems that KCC has reached their limits and that they need something new to make the final step.

Hyper Shogi : Tough program to beat and probably a regular in the finals. Very stable program that doesn't extend itself, quietly waiting for a chance. Against weaker programs this is very effective, but this approach is not enough to beat the big names.

KFEnd : I am not so sure what to say about KFEnd. It's performance in the preliminary group showed great potential, losing only to YSS. However, somehow this didn't carry over to the finals. It almost makes one wonder if the program partied deep into the night to celebrate qualification...

Eisei Meijin : Yoshimura will have been happy to be in the finals again, but it would have helped sales a lot if he would have beaten one or two of the strong programs. There was a good chance against IS Shogi, but Eisei Meijin was just not strong enough to pull it off.

Bingo Shogi : Lucky to qualify for the finals, but without a little bit of luck life would be very dull. Bingo Shogi beat Eisei Meijin in the final and put up a tough fight in its other games, so this is no ordinary program. Furthermore, since it was developed from scratch by one person in only two years, the success of Bingo Shogi shows that it is not necessary to spend a lifetime on shogi programming before one has something decent.