

Indonesian Olympiad in Informatics



Brian Marshal

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Introduction

- Goals:
 - Generally, to introduce young generation in Indonesia to informatics through a form of competition (as the formal curriculum of pre-university education in Indonesia does not include any informatics education).
 - In addition, to coordinate the selection and training process of students to take part in IOI.

Introduction

- Trivia:
 - First joined IOI in 1995.
 - With initiative from individuals s.a. Joko Saputro.
 - One student, one silver.
 - No absence until today.
 - Except 2003, due to visa problems.
 - In total, has collected 2 golds, 11 silvers, and 16 bronzes.

Challenges

- Focus On Two Main Challenges:
 - Infrastructure Condition
 - Human Resource



Chal: Infrastructure

- How Big Is It?
 - About 17000 islands (900 out of them are inhabited).
 - More than 5000 kilometers (east-west) and 1500 kilometers (south-north).



Chal: Infrastructure

- However!
 - About 60% of 213 millions citizens live in a single island (Java).
 - Only a quarter of 200 000 schools connected to internet.
 - There is only 1 computer among 3200 students.



Chal: Human Resource

- Secondary school curriculum.
 - The curriculum does not include informatics.
 - Few schools offer informatics as extracurricular subject, with an inclination towards using application (not programming as the core of informatics).
 - Only few of the few, which mostly have prior exposure of OKI, offer programming.



Chal: Human Resource

- Tertiary Education Related to Informatics.
 - Centered development (in Java) means concentrated skilled human resource too.
 - There are 256 institutes reach university-level informatics in Java, only 145 outside Java.



Chal: Human Resource

- Number of active organizers of OKI.
 - Currently, there are less than 10 active (voluntary and part-time) individuals in the main OKI organization which consist of university lecturers and OKI alumni.
 - A lot of alumni went to universities abroad (mostly Singapore) and the others who are in Indonesia pursue other interests.



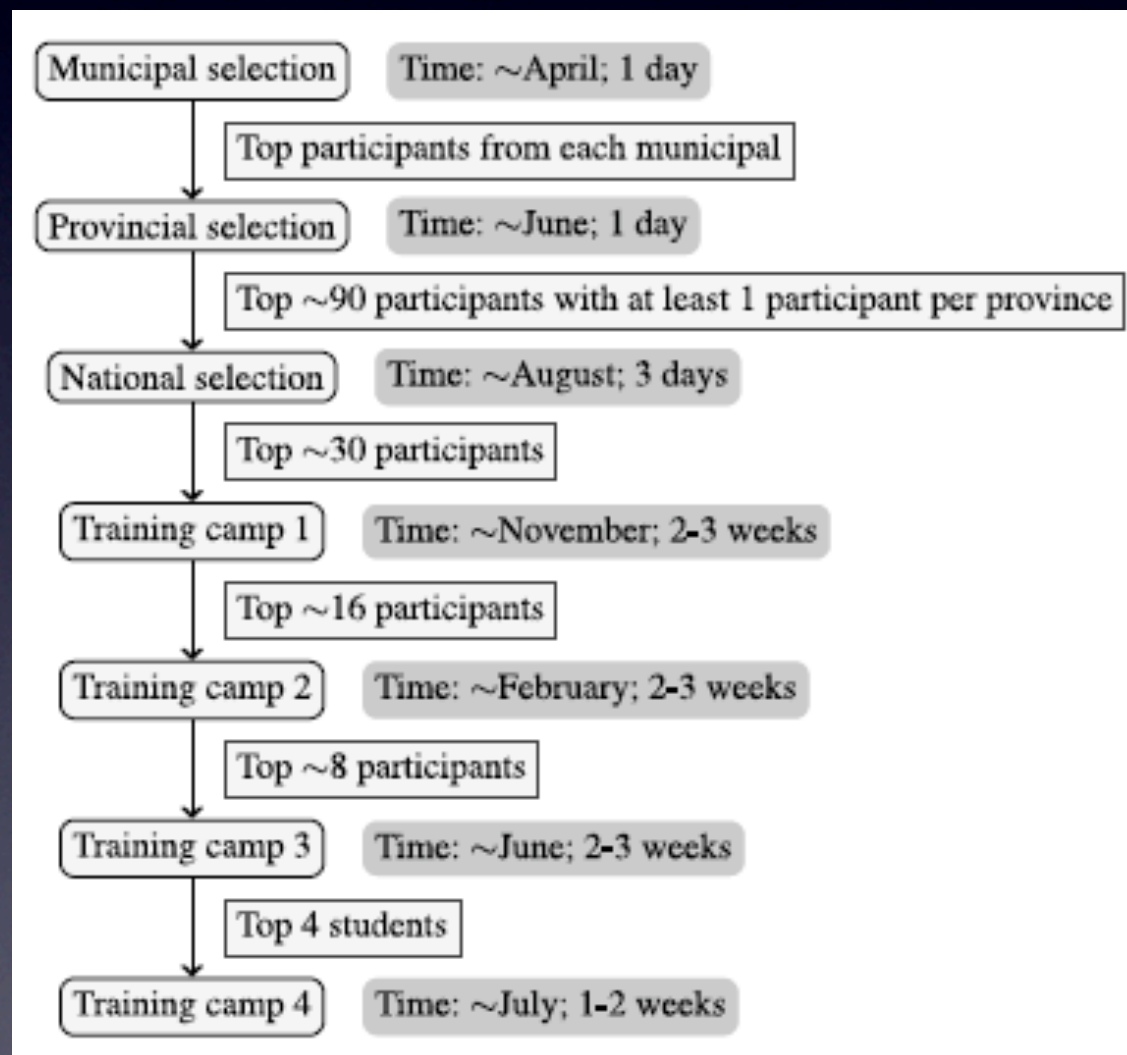
Solutions

- OKI Structure
- Online Training
- Pseudopascal
- OKI Bureaus



Sol: OKI Structure

- Multi-tiered competition; support of Ministry of Education.



Sol: OKI Structure

- Pre-Training Camp Competition (single-day-events).
 - Municipal / provincial / national selection.
 - Analytical and algorithmic exams are used to identify potential students.
 - Real programming started at national stage.
- Training Camp (weeks-long-events).
 - Round-robinly held at OKI Bureaus.
 - Prepared by university lecturers and OKI alumni.



Provincial Selection



Provincial Selection



National Competition



National Competition



Training Camp



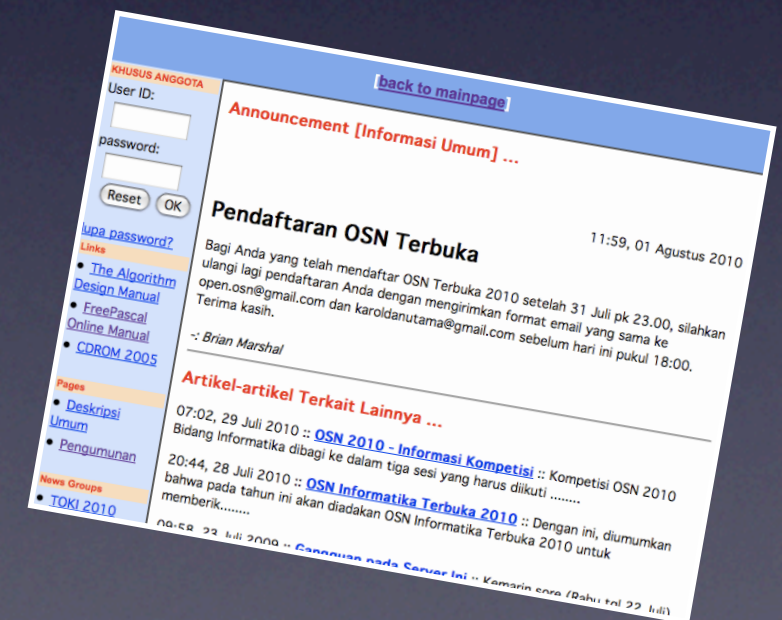
Training Camp



Ministry of Education

Sol: Online Training

- Opened before each competition stage.
- Allows students to actively participate in school life while they are practicing.
- Allows more OKI alumni, regardless of where and when, to contribute.



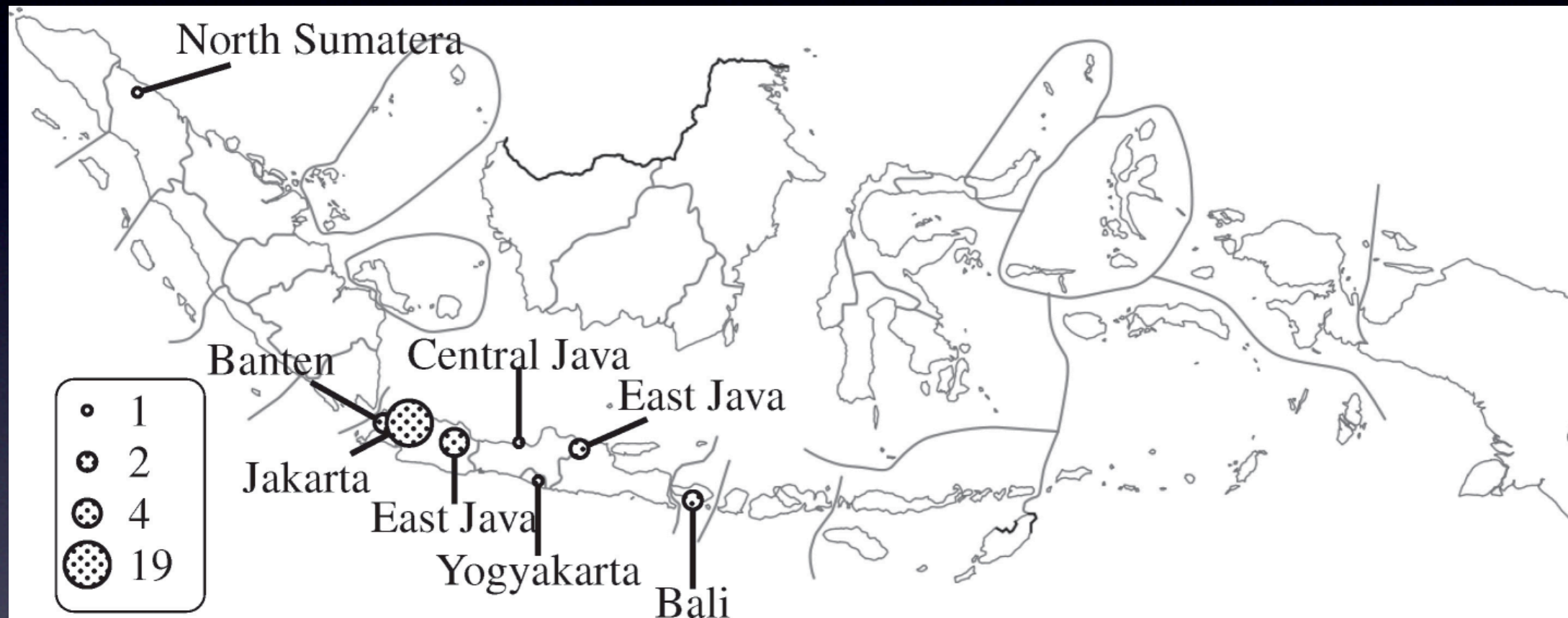
Sol: Pseudopascal

- Simplify Pascal language.
- Usage of a subset of Pascal.
- A combination between pseudocode and Pascal language.

Sol: OKI Bureaus

- Possible place to conduct training camp.
- Regional contact point for local training.
- At the moment, there are 5 official OKI Bureaus.
- Last national competition, held online in 8 sites including the 5 bureaus.
- Last regional competition, held online in the 5 bureaus.

Results



Results

Province	2002	2003	2004	2005	2006	2007	2008	2009	Total
Java									
Jakarta	10	9	4	5	8	8	6	7	57
Central Java	2	3	9	6	3	5	4	3	35
West Java	4	7	4	6	4	3	1	2	32
East Java	2	6	2	4	4	1	1	3	23
Yogyakarta		1	1	4	2	3	3	2	16
Banten		2	1	1	1	1	3		9
<i>Total for Java</i>	18	28	21	26	22	21	18	17	172
Bali	1	3	3	2	2	1	1	1	14
Sumatera									
Jambi			2	2	4	3	2	2	15
Riau	1	1					1	1	4
South Sumatera		1				1		3	5
West Sumatera								1	1
North Sumatera				5	6	1	2	2	16
<i>Total for Sumatera</i>	1	2	2	7	10	4	5	8	41
Borneo									
West Borneo					3	2		2	7
Central Borneo					1				1
<i>Total for Borneo</i>					4	2		2	8
West Nusa Tenggara	1	1	1	1					4
Sulawesi									
North Sulawesi					1				1
South Sulawesi							1		1
Gorontalo								1	1
<i>Total for Sulawesi</i>					1		1	1	3

Conclusion

- Challenges around OKI are presented; mainly infrastructure and human resource issues.
- Solutions are shown as producing some improved results (in the number of participants, especially from areas without prior history of success in OKI).
- In the short term future, we are concentrating on:
 - Improving online training.
 - Writing elementary informatics books in Indonesian for students and teachers.

Question ?

Thank You !

Authors :)

- Ilham W. KURNIA
 - Computer Science Faculty, University of Kaiserslautern, TU Kaiserslautern
Fachbereich Informatik, Gebäude 34, Postfach, 30 49, D-67653 Kaiserslautern
e-mail: ilham@cs.uni-kl.de
- Brian MARSHAL
 - School of Computer Engineering, Nanyang Technological University
Nanyang Avenue, Block N4, Singapore 639798
e-mail: brian.marshal@pmail.ntu.edu.sg
- www.toki.or.id