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s.a. International Business Machines of Belgium, n.v.

College of Geneva
Mr. MOREL Raymond
P.O. BOX 172
CH 1211 GENEVA 3

S W I T Z E R L A N D

Brussels, february 7, 1983.

Dear Sir,

Please find herewith the documents you asked for when we met in Geneva.

I hope to meet you again very soon and I stay at your disposal for any further information.

Best regards.



Armand LINKENS

Computers in Belgian Secondary Schools

IBM

C O M P U T E R S

I N

B E L G I A N

S E C O N D A R Y

S C H O O L S

Armand LINKENS

IBM BELGIUM

1, square Victoria Regina

B-1030

BRUSSELS

BELGIUM

Computers in Belgian Secondary Schools

IBM

SUMMARY

1. IBM and the Education World
2. Structure of the Education World in Belgium
3. Computers in Secondary Schools
4. Our approach
 - 4.1. E.I.E./O.I.O.
 - 4.2. F.A.M.E.
 - 4.3. Holiday School

Computers in Belgian Secondary Schools

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IBM / EDUCATION WORLD

IBM WANTS TO SUPPORT EDUCATION

Our procedures include :

- special terms and conditions
- special prices
- sponsorship

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Educational Allowance :

- discounts on hardware and software
- case to case control for eligibility
(non-profit, education activity or
administration of the school, ...)
- special contracts

Academic Use Allowance :

- special discount for some softwares if
they are used solely for courses
(compilers, a.s.o.)
- case to case control
- educational allowance is mandatory
- special contracts

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Sponsorings :

- FOR SOME SPECIAL RESEARCHES
ex. professor de Duve or Clinique de Melsbroeck
- POST-DOCTORAL FELLOWSHIP (1 year min.)
professors are sent to our labs and paid by IBM to make their research
- SUMMERPROGRAM VISITORS (2-3 months)
similar as post-doc but shorter
- PROFESSORS TOURS (2-3 weeks)
to visit european/american universities

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Sponsorings : (continued)

- STUDY FOUNDATIONS (2-3 months)
foundation for students preparing a PhD
to go to our labs
candidates are selected by the FNRS
- PRIX INFORMATIQUE IBM
price to 4 PhD or bachelor thesis on
computers
- INTERNATIONAL PROFESSORSHIP IN COMPUTER
SCIENCE
a well known teacher is invited to give
lecture for 1 year
This year : Prof. R.M. LEA speaks about
VLSI chip architecture

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Project O.N.Em. / R.V.A.

- unemployment administration chooses unemployed people to send to IBM's education centers for 4-6 months
- these people are trained free of charge to become D.P. Managers
- training includes practice in the field under control of our Systems Engineers

More than 200 persons have been trained and have found a job.

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EDUCATION WORLD IN BELGIUM

	LEAVING SCHOOL	o/o
UNIVERSITIES age 18-25 HIGH SCHOOLS 18-20 flow : 30.000 students	30.000	15
UPPER age 16-18 SECONDARY SCHOOLS flow : 66.000 students	36.000	18
LOWER age 12-15 SECONDARY SCHOOLS flow : 200.000 students	134.000	67
	200.000	100
PRIMARY SCHOOLS KINDERGARDEN		

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EDUCATION WORLD IN BELGIUM

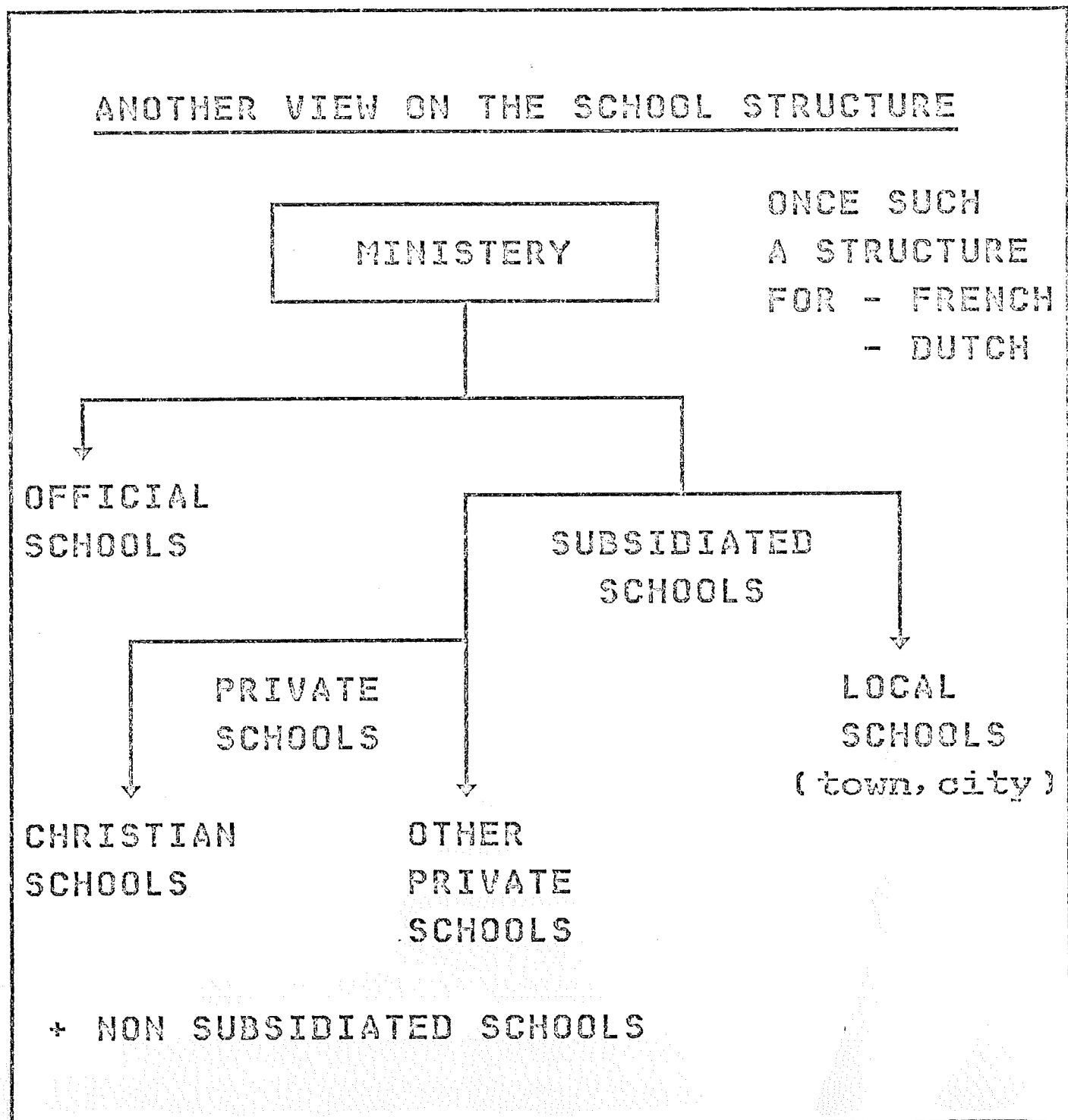
THUS ABOUT 80 o/o OF THE
CHILDREN STOP SCHOOLING AT
THE SECONDARY LEVEL.

MOST OF THEM WILL BECOME CLERKS
OR EMPLOYEES.

ALMOST ALL OF THEM WILL LATER
HAVE TO USE COMPUTERS AS OPERATORS

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EDUCATION WORLD IN BELGIUM



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SITUATION IN SCHOOLS IN 1980

WHAT DO THEY HAVE ?

- Some old-line machines

THIS IS NOT A CHEEP SOLUTION DUE TO MAINTENANCE CHARGES THAT WERE VERY EXPENSIVE FORMERLY

- Some terminals on networks

THESE TERMINALS ARE CONNECTED ON COMPUTERS WHO ARE MOSTLY USED FOR ADMINISTRATIVE APPLICATIONS
ONLY A FEW SCHOOLS MAY ACCESS TO EDUCATIONAL TOOLS

- A lot of microcomputers

THE SUCCESS OF THIS APPROACH IS OF COURSE DUE TO LOW ENTRY LEVEL OF COSTS : YOU MAY ALREADY OWN A "COMPUTER" FOR 10-20.000 BF (I.E. 500-1.000 SF) AND UPGRADE IT STEP BY STEP
THESE COMPUTERS HAVE ALWAYS BEEN PURCHASED BY THE MATHEMATICIANS OR THE PROFESSORS OF SCIENCES

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SITUATION IN SCHOOLS IN 1980

ADVANTAGES / DISADVANTAGES

- ++ CHILDREN SEE COMPUTERS
- COMPUTERS ARE MOSTLY SEEN AS SCIENTIFIC TOOLS

- + COST IS LOW
- NO RETURN ON INVESTMENT BASED ON ADMINISTRATIVE USE PROVIDED CONFIGURATIONS ARE INCREASED AND BECOME EXPENSIVE

- ++ LOW COST ALLOWS TO PURCHASE MORE THAN ONE COMPUTER
- MOST SCHOOLS HAVE 2 OR 3 DIFFERENT TYPES OR EVEN 2 OR 3 DIFFERENT SUPPLIERS SO THEY HAVE COMPATIBILITY PROBLEMS

- COMPATIBILITY BETWEEN DIFFERENT SCHOOLS IS VERY WEAK

- NO FILE PROCESSING DUE TO USE OF CASSETS

- ++ GRAPHICS ARE POSSIBLE BUT ARE NOT USED EXCEPT FOR MATHEMATICS OR SCIENCES

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SITUATION IN SCHOOLS IN 1980

ADVANTAGES / DISADVANTAGES

- THE SAME APPLICATIONS ARE DEVELOPPED IN ALL SCHOOLS INSTEAD OF BEING EXCHANGED FROM SCHOOL TO SCHOOL
- PROGRAM WRITERS ARE BEGINNERS AND HAVE NO SUPPORT TO IMPROVE FASTLY THEIR KNOWLEDGE AND SKILLS
- PROGRAMS ARE NEVER DOCUMENTED
- DEVELOPPEMENT METHOD ARE ANARCHICAL : NO STANDARDISATION IS USED FOR EXAMPLE TO CREATE MENU DRIVEN APPLICATIONS OR TO USE SIMILAR PROGRAM ARCHITECTURES
- ERGONOMICS MAY BE POOR (POOR SCREEN QUALITY CAUSES EYE DAMAGE)
- COURSES ON COMPUTERS ARE ALMOST RESTRICTED TO LANGUAGE LEARNING

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LEARN A LANGUAGE IN SECONDARY SCHOOLS ?

LANGUAGES :	BASIC	FORTRAN	PL/1
	PASCAL	APL	COBOL
	FORTH	RPG	ASSEMBLER
	a.s.o.		

To be 'as most' try BASIC

To be 'in' try PASCAL or even FORTH

To be 'near the machine' try ASSEMBLER

To be 'a library user' try FORTRAN

To look 'standard' try COBOL

To be 'professional' try APL or PL/1

To be 'productive' try RPG

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LEARN A LANGUAGE IN SECONDARY SCHOOLS ?

- WHICH LANGUAGE WILL I TEACH ?
- WHICH IS THE LANGUAGE OF TOMORROW ?
- WHAT IS THE EVOLUTION OF LANGUAGES ON BUSINESS COMPUTERS (i.e. the one that is used in professional world) ?
- TO WHAT WILL I PREPARE MY STUDENTS BY TEACHING A LANGUAGE ?
- WHAT WILL BE THE FUNCTION OF MY STUDENTS AFTER LEAVING THE SCHOOL ?
- IS TEACHING A LANGUAGE MANDATORY TO KNOW HOW A COMPUTER WORKS ?

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LEARN A LANGUAGE IN SECONDARY SCHOOLS ?

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The language of tomorrow ?

- for programmers : probably one of the classical ex. FORTRAN is poor but will probably stay for a while due to the enormous libraries that already exist ; idem for RPG & COBOL. Perhaps one or another NEW LANGUAGE.
- for End-User's (including operators) :
 N O N E
 but Q U E R Y L A N G U A G E S
 i.e. INTERACTIVE question and answer structures.

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LEARN A LANGUAGE IN SECONDARY SCHOOLS ?

- TO WHAT WILL I PREPARE MY STUDENTS BY TEACHING A LANGUAGE ?
- If you have enough time they will probably be able to write some code but learn them writing business applications (including FILE MANAGEMENTS) will demand over 200 hours.
- Do you teach
 - what's a SORT ?
 - what's a SEQUENTIAL FILE ?
 - what's a DIRECT FILE ?
 - how to use a POINTER FILE ?
 - typing ?

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LEARN A LANGUAGE IN SECONDARY SCHOOLS ?

- WHAT WILL BE THE FUNCTION OF MY STUDENTS AFTER LEAVING THE SCHOOL ?
- IS TEACHING A LANGUAGE MANDATORY TO KNOW HOW A COMPUTER WORKS ?

REMEMBER :

- 80 o/o OF STUDENTS ENTER WORKLIFE DURING OR AFTER THE SECONDARY SCHOOLS
- MOST OF THEM WILL BECOME CLERKS OR EMPLOYEES
THEY WILL THUS BE DISPLAY USERS (OPERATORS) SOME WILL HAVE TO USE QUERYTOOLS

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LEARN A LANGUAGE IN SECONDARY SCHOOLS ?

MY CONCLUSION :

MAKE YOUR STUDENTS CONFIDENT IN COMPUTERS
LET THEM USE IT AS A TOOL

SO YOU DON'T KNOW HOW A UNIVERSAL QUERY
LANGUAGE WILL LOOK LIKE DON'T TEACH
LANGUAGES - THAT WILL PERHAPS NO MORE BE
USED
- THAT ARE DIFFICULT FOR FILE
HANDLINGS

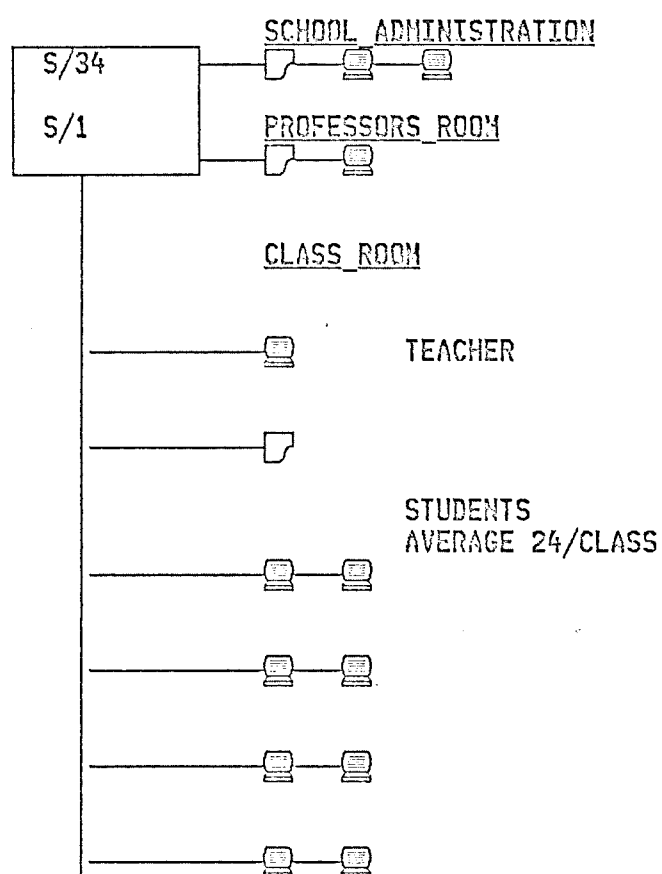
GIVE YOUR STUDENTS A PERFECT KNOWLEDGE ON
FILES, FIELDS, DATA STRUCTURES, SORTS,
a.s.o., i.e. WHAT THEY WILL NEED TO WORK
WITH QUERY PROGRAMS

PROGRAMMERS WILL BE FORMED IN UNIVERSITIES
OR IN UPPER SCHOOLS

COMPUTERS IN BELGIAN SECONDARY SCHOOLS

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THE IDEAL SOLUTION



COST : ABOUT 3.000.000 BF I.E. 120.000 SF

A COMMON BUDGET MUST BE FOUND AND ALL THE
R.O.I. MUST COME FROM SCHOOL ADMIN.

COMPUTERS IN BELGIAN SECONDARY SCHOOLS

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E. I. E. / O. I. O.

E. I. E.

ENSEIGNEMENT INFORMATIQUE ENTREPRISE

O. I. O.

ONDERWIJS INFORMATICA ONDERNEMING

COMPUTERS IN BELGIAN SECONDARY SCHOOLS

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E. I. E. / O. I. O.

E. I. E.

ENSEIGNEMENT INFORMATIQUE ENTREPRISE

O. I. O.

ONDERWIJS INFORMATICA ONDERNEMING

E. C. I. S.

ENTHOUSIASM COMPUTERS INDUSTRY SCHOOLS

Computers in Belgian Secondary Schools

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E.I.E./O.I.O.

ORIGIN OF THE IDEA

Some of our customers are disappointed because their employees are afraid when they introduce a computer. This is not only true for elderly people but also for young.

So there is no official program for introducing computers in schools they suggest us to ''do something to promote computers in secondary schools''

And they add ''we are ready to help you even with sponsoring schools''

Computers in Belgian Secondary Schools

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E.I.E./O.I.O.

What we did

TEST the idea - at some other customers
- at schools

THINK - on computers in secondary school
- about lacks of present situation

DECIDE an action

- fastly
- in all types of secondary schools
- with standard configurations
- with COORDINATION
- with SUPPORT and EDUCATION
- sponsoring of INDUSTRY
- R.O.I. for schools and industries
- visibility

Computers in Belgian Secondary Schools

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E.I.E./O.I.O.

How it happened

Duration : 2 months

INDUSTRY : 60 companies are contacted
27 ACCEPT TO HELP A SCHOOL

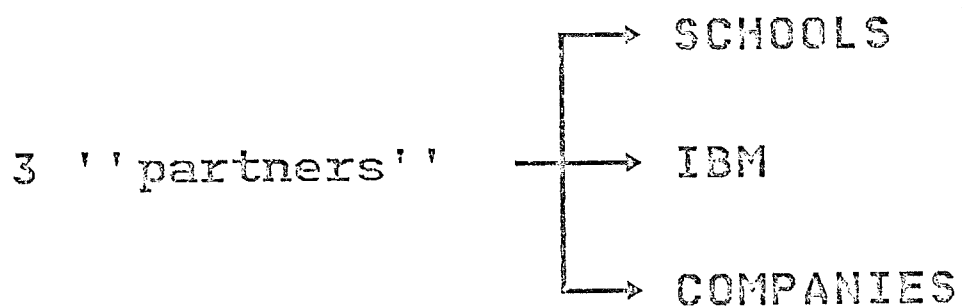
SCHOOLS : 25 are contacted
15 ACCEPT TO INSTALL A COMPUTER

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E.I.E./O.I.O.

Structure of the project

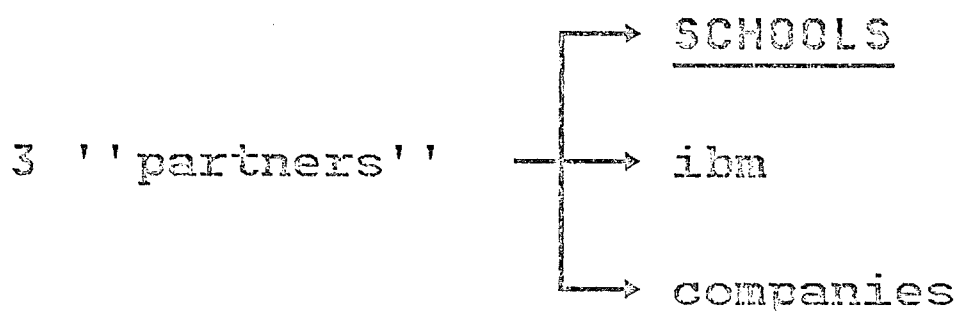


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E.I.E./O.I.O.

Structure of the project



- will
- create courses on computer
 - develop and document programs for their courses (not only computer science but also sciences, maths, geography, history,)
 - exchange their programs with other schools

after one year we had already 45 well tested, well documented programs

Computers in Belgian Secondary Schools

E.I.E./O.I.O.

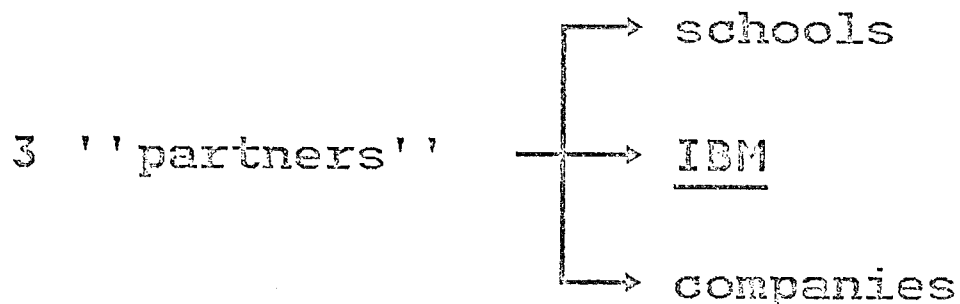
LIST OF PARTICIPATING SCHOOLS

Institut Saint-Boniface - Parnasse	Bruxelles
Scheppersinstituut	Malines
I.E.S.N.	Namur
Institut Supérieur Saint-Luc	Bruxelles
Vlaamse Economische Hogeschool	Bruxelles
Lycée Molière A.S.B.L.	Bruxelles
Collège et Maison Saint-Augustin	Enghien
Institut Saint-Joseph	Etterbeek
Institut Saint-Stanislas	Bruxelles
Ecole des Frères de Tournai	Tournai
Institut Technique de l'Etat	Mouscron
Collège Jean XXIII	Bruxelles
Sint-Amandusinstituut A.S.B.L.	Gand
I.S. Architecture Saint-Luc	Liège
I.C.E.T.	Cuesmes
Institut Saint-Jean-Baptiste de la Salle	Bruxelles
Technisch Instituut Mater Dei	Overpelt
Saint-François de Sales	Ath
Athenée Royal d'Ottignies	Ottignies
V.I.T.O.	Hoogstraten
Institut Soeurs de la Providence	Gosselies
Institut Sacré Coeur	Frameries
Heilige Maagd College	Termonde
Centre d'Animation en Langues	Braine-le-Comte
Maria Assumpta Lyceum	Bruxelles
Ecole Normale Libre Subventionnée	Braine-le-Comte
Vrij Technisch Instituut	Hasselt
Institut Agricole Prov. Hainaut	Soignies
Institut Communical Mécanique	Liège
Heilig Hart Instituut	Heverlee
Heilig Graf Instituut	Turnhout
Bischoffliche Institut	Büllingen

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E. I. E. / O. I. O.

Structure of the project



- will
- coordinate the project
 - give logistical aid
 - teach and train the teacher from the schools
 - create and maintain a VISIBILITY of the project on LOCAL and NATIONAL base

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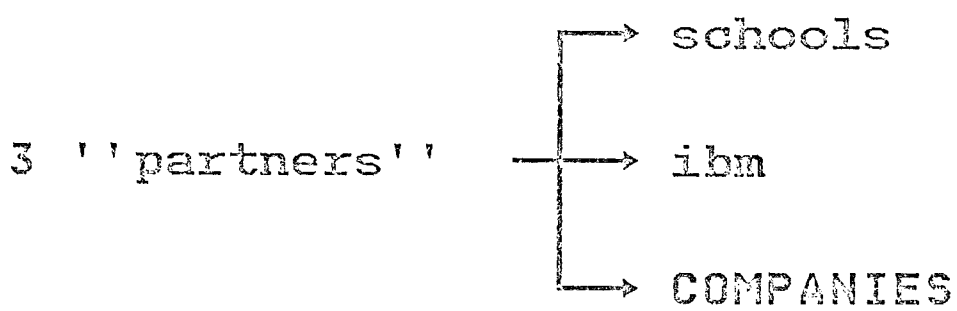
E.I.E./O.I.O.

SOME OF OUR ACTIONS

- one week seminar to 'teach the teachers'
25 IBMers have taught 75 professors
- official announcement of the project
 - newspapers 700.000
 - Solutions/Oplossingen 20.000
 - mailing 40.000
- creation of a bulletin to maintain contact
- program exchanges
- national meeting of all partners
 - 2 days exhibition
 - press conference
 - seminars
- local fairs & computer shows
- new schools
- second seminar for teachers (1 week)
- World Conference on Computers in Education
in Lausanne (7/81)

Computers in Belgian Secondary Schools IBM

E.I.E./O.I.O.

Structure of the project

will -provide financial aid to a school
to purchase the computer
-accept to receive a max of 5
visits a year to show their own
computers, i.e. to show computers
in a true business environment

Computers in Belgian Secondary Schools

E.I.E./O.I.O.

LIST OF PARTICIPATING COMPANIES

S.A. Chaussures Bally	Chaussures, Maroquinerie	Bruxelles
CIT E. Blaton S.A.	Construction	Bruxelles
Boels et Bégault S.N.C.	Assureurs-conseils	Bruxelles
C.P. Bourg S.A.	Matériel de bureau	Ottignies
Cemstobel S.A.	Nettoyage d'Immeubles	Bruxelles
La Céramique Nationale S.A.	Carreaux de céramique	Welkenraedt
C.F.I. Group S.A.	Physical Distribution	Bruxelles
The Coca-Cola Exp. Corp.	Concessionnaires Coca-Cola	Bruxelles
S.A. Sucrierie Couplet	Sucrierie	Brunehaut
Danfoss S.A.	Matériel de régulation	Bruxelles
Diaprint S.P.R.L.	Imprimerie de formulaires	Ath
Anc. Maison Dujardin S.A.	Vêtements d'enfants	Bruxelles
S.A. Esab N.V.	Matériel de soudage	Diegem
Facq S.A.	Sanitaire, Chauffage	Bruxelles
Fidisco S.A.	Equipment-Leasing	Bruxelles
S.A. Gedit	Edition-Impression	Tournai
S.A. Jacqmotte N.V.	Torréfaction de cafés	Bruxelles
S.A. (Les) Combustibles		
Jules Jacques		Bruxelles
S.A. Lievin	Décoration-Distributeur	Enghien
Banque Nagelmackers S.A.		Liège-Bruxelles-Namur
Sandvik S.A. (Belgium)	Aciers, Outillages, Scies	Bruxelles
Groupe Securex	Droit social-Assurances	Bruxelles
N.V. Tele Norma S.A.	Télécommunication	Bruxelles
Tubax S.A.	Meubles Métalliques pour Bureaux/Ecoles	Bruxelles
Unat	Union Atlantique d'Assurances	Bruxelles
Ets. A. & L. Verhaegen S.A.	Epeda/Lattoflex	Bruxelles
Viatour - De Cock & Cie	Agents de Change	Liège-Bruxelles
Rossel Voyages	Agence de Voyages	Bruxelles
Cyanamid Benelux S.A.	Produits Pharmaceutiques	Louvain-La-Neuve

COMPUTERS IN BELGIAN SECONDARY SCHOOLS

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OTHER ACTIONS

F. A. M. E.

FINANCIAL ALLOCATION / MARKETING EXERCISE

SINCE 1965 AN IBM BUSINESS GAME ON
S/360 AND S/370

TRANSLATED TO S/34 FORTRAN IN 1979

PURPOSE : DEMONSTRATE THE ABILITY OF
COMPUTERS TO SUPPORT MANAGEMENT
DECISIONS

LEARN STUDENTS TO USE COMPUTERS
AS MANAGEMENT TOOLS

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OTHER ACTIONS

FAME

SCHOOLS organize sessions for their students

COMPANIES accept to give their S/34 to organize the exercise

IBM teaches the teachers and gives the package

COMPUTERS IN BELGIAN SECONDARY SCHOOLS

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OTHER ACTIONS

S U M M E R

S C H O O L

Computers in Belgian Secondary Schools

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OTHER ACTIONS

SUMMER SCHOOL

- Mailing to all belgian schools
- Offer CONTEST to select students for a summer school (free of any charge)
- 250 answers (10 o/o)
- Contest = report on Computers and Health
- 75 Dutch, 55 French dossiers
- 2 sessions (one week each)
- 12 schools (3 students each) per session
- a.m. work on 16 displays on a S/34
p.m. sport (ADEPS)