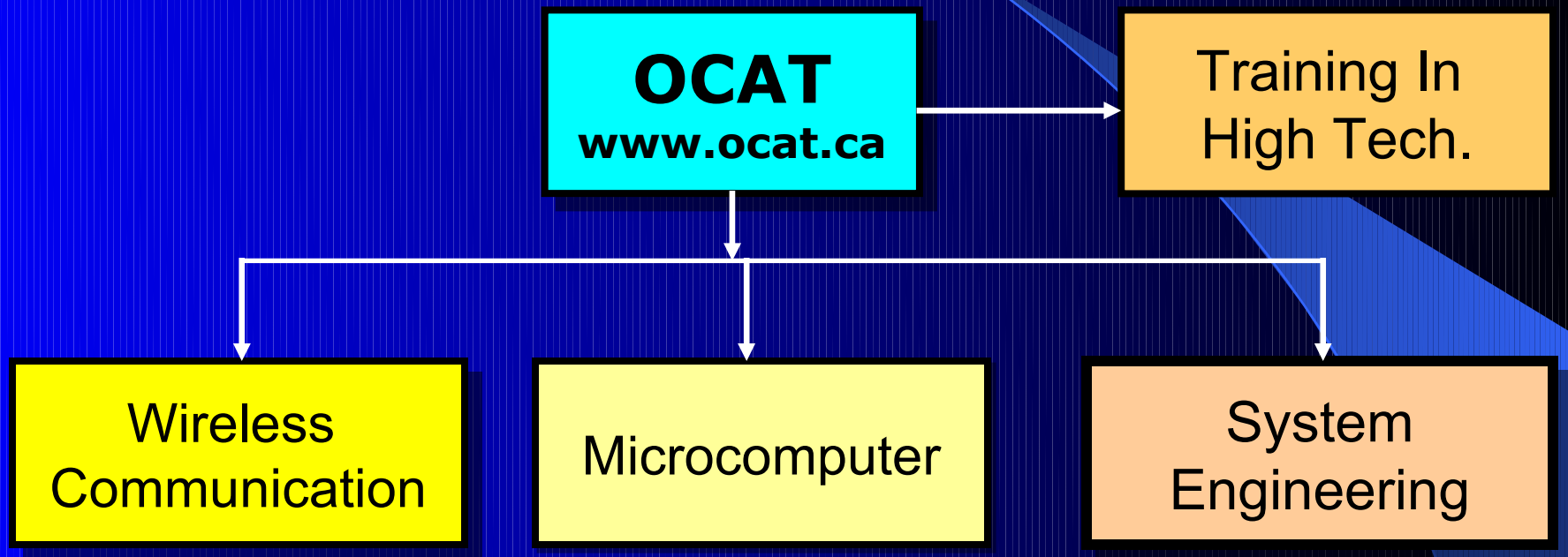


OCAT Technology

**OTTWA Center for Advanced Technology
Education and Information System
*Business opportunity Proposal***



OCAT Technology



Education and Information System

- **Introduction:** The most important elements in our lives these days is the education and learning skills for our career enhancement. The vast explosions of information around the world shows that there is always new discoveries, new information or inventions being born not per year or per month or even per day but rather per hour. As an individual or a group or even as a government would be looking forward to either learn or provide a learning system and new tools for the current generation and generations to come to have easy and efficient methods for learning without adding an extra burden in our personal and financial lives.

The Project

- **Objective:** Using the most advanced current technology of multimedia, wireless telecommunication and sophisticated design methodology to develop a system concept to serve the purpose of education and skill enhancement for almost every need for each person around the world.

The Project

- ❑ **The product:** The system has two major components. A large storage server called OCAT Server (OSR) and the second component is the Educational Communication Unit (ECU). The ECU based on the current wireless technology used in its local location (each country). The communication technology is based on the available receiving system such as: GSM, 3G (UMTS), WiMAX (4G), wireless internet (Wi-Fi), and also satellite receiver (Optional).

The Project

- ❑ **ECU:** The ECU is a hand carry unit with battery operated. This unit is capable of receiving an audio, video (TV quality), and data in text formats. ECU can also record an audio, typing data to be transmitted using telephone interface or any wireless media available at the area. ECU unit also able to download/upload files from /to the computer. ECU receives a special message, pager, and immediate e-mails delivery. The design of this unit based on multi processing technique.

The Technology

*How can we benefit
from this new
technology ?*

*The advantage of having an ECU as an individual can serve
in more than one purpose:*

The Technology

- **Educational System:** When ECU used as an educational tool, an individual will be able to listen to a complete course for his/her education school year which will be divided into a number of lessons or classes with attached assignment at the end of each class (the assignment will be downloaded in a file) and will have the opportunity to send his/ her assignment answer/ solutions using the telephone connection or any other wireless media to instructor's email at the OCAT server (OSR). Also for every next class there is a period of answering questions from the previous lesson. The system will provide all academic year's programs for either high school, junior high, and elementary school.

The Technology

- ❑ The opportunity to get the class materials from best teacher in the subject. Also one of the added value to the teaching material in which you can request the ideal answer from OSR for the previous national exam for any previous year up to last 15 years. These classes cover almost all the subjects (Language, grammars, history, geography, science, mathematic, algebra, accounting,...).
- ❑ The previous set of education features will be used also for higher education to get a university degree and higher studies with an agreement with highly recognized university around the world.

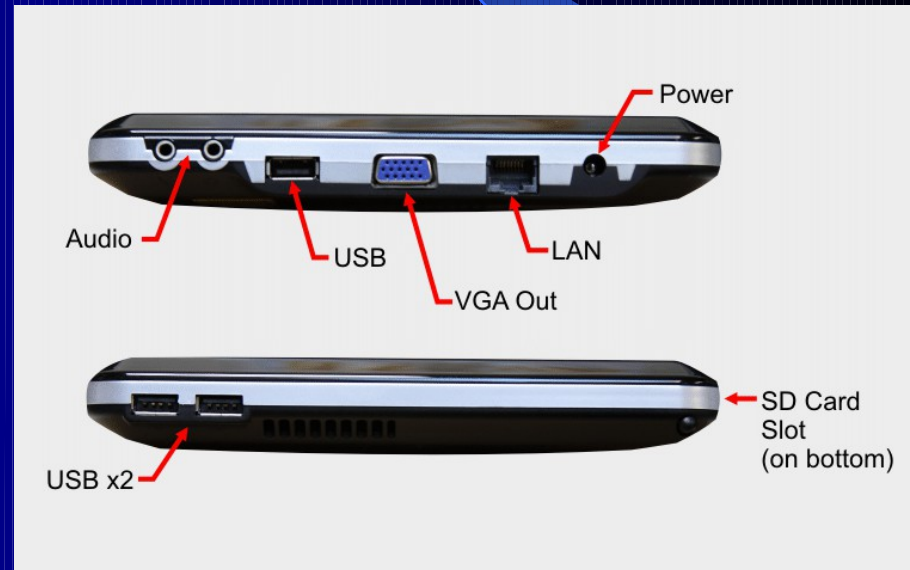
The Technology

ECU unit looks the same as below with different technology

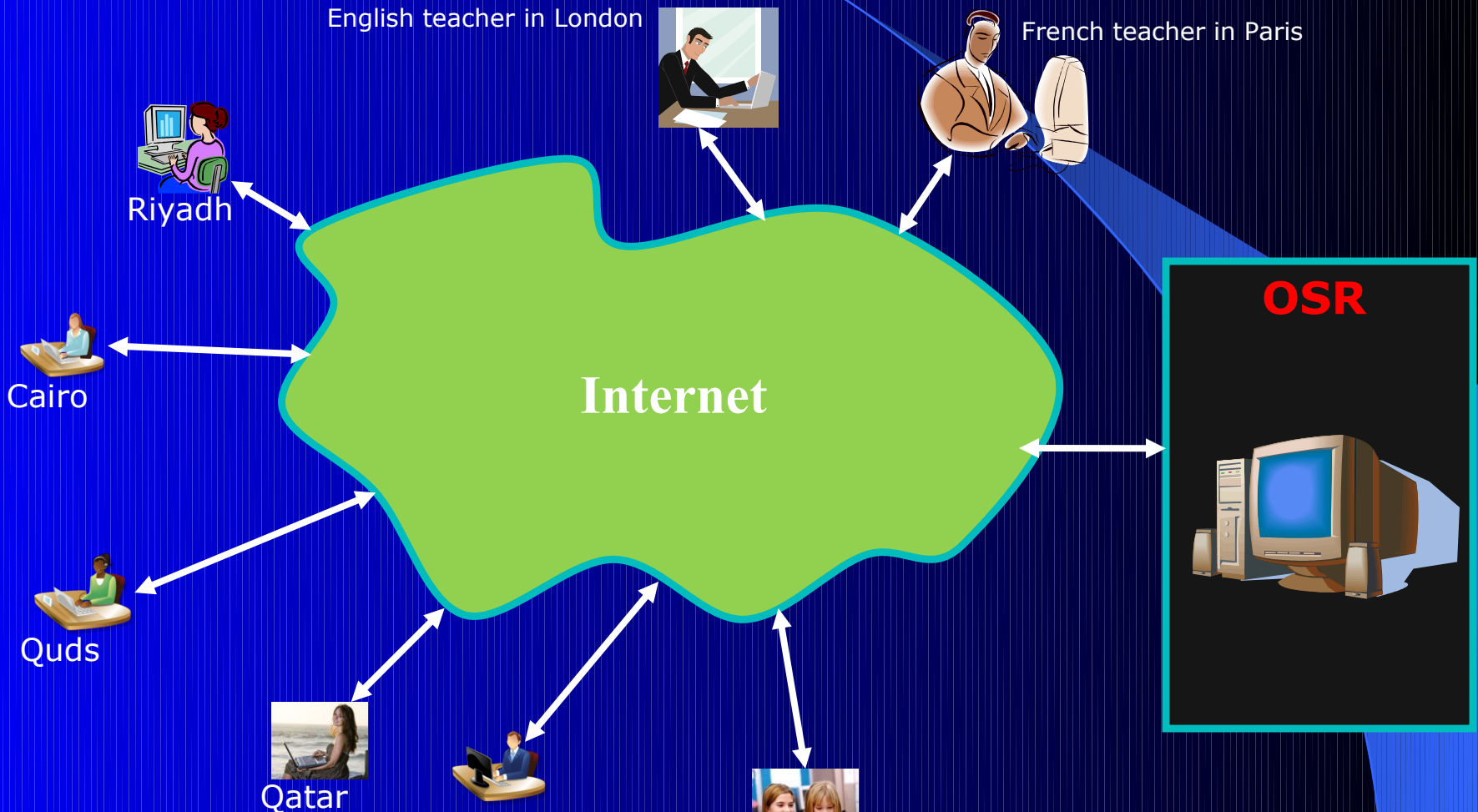


The Technology

ECU Touch-screen - Intuitive interface - No keyboard needed

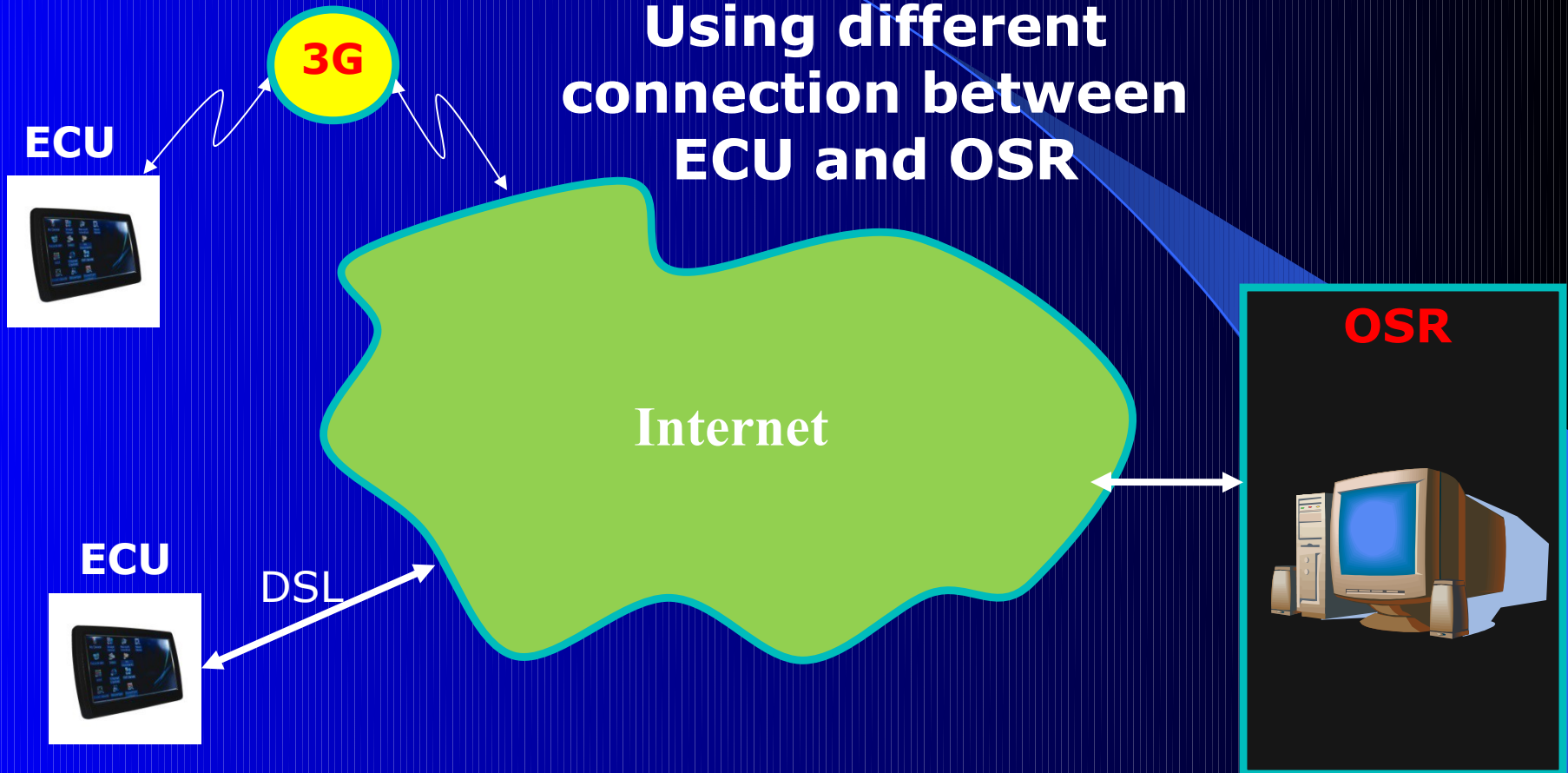


OCAAT System worldwide

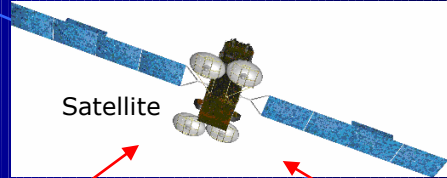


OCAT System

Using different
connection between
ECU and OSR



OCAT communication System



High Speed Link

High Speed Link

Satellite transmitter receiver

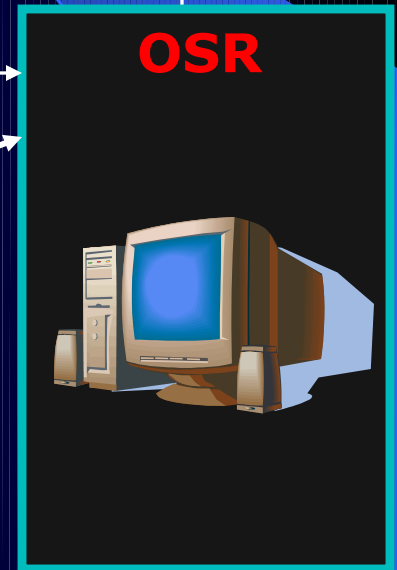
Transceiver

G3, G4 Interface

G3, G4 Interface

OSR

Internet



New e-Learning concept

*This is a true an e-school and e-
university*

New e-Learning concept

- **Using ECU for learning:** The user will be able to receive from OSR the subject and topic of interest, stored in its memory for any time retrieval. The ECU has large memory storage to be able to store all the students needs for his/her school year requirements and need. The user will be able to choose any group of subjects at the time of purchase, then these subjects will be activated for his/her use at the time of communicating with OSR using any wireless system available at the area. Subject choice will be based on his/her study year (at the beginning will be for high school) any one of a 5 different subjects or all the subjects received by ECU.

New e-Learning concept

- At the pre-scheduled time for lectures the user will be able to join the e-class by viewing the lecture and the teacher delivering the subject, at the end of lecture will be questions and answer period where the student asks any question and the teacher answers. After the class is over the student will be able to review the lecture as many times as he/she wants because it is already stored in his ECU. Also the students will have a time limit to complete his/her assignment and send it to the assigned teacher via the OSR email.

New tools

There are different sections will be available in OSR for which the user can access:

New tools

- ❑ School programs (High school, junior high, elementary school)

New tools

- ❑ Public information (lectures, history, space knowledge, human body, science and technology. Also include summary of the most recent published paper, magazines on different topics such as: scientific, medical discovery from around the world (Audio, Video –TV quality)

New tools

- ❑ Skill enhancement programs, which includes different lectures from expert of a specific field such as: electronics, telecommunications, and economic, political, religion. Also these sections may invite different speakers from different field to have an open discussion in certain area of knowledge.

New tools

- ❑ Some sections will be dedicated for transmitting personal data, information in either text, audio, video form to every subscriber (individual ECU for his/her requested item (lesson, specific application form, file with specific requirement,..))

New tools

- ❑ Teaching different language for public with limited education level (Arabic, English, French,..). Also for updated news from different independent sources which may break the news monopoly from the current news system..

Live lectures & seminars

- Using the ECU for real time (Live) learning programs:
Using this feature to add another flavour to the user by choosing any program he/she might be interested to select, then OSR will sent a list of chosen lectures of his/her interest and the time, subject, speaker. User of ECU shall be able to watch a video live lectures and even participate during the event.

This feature may include programs such as: political, scientific, economic, and medical seminars delivered by expert around the world.

Also with pre arranged selected scholars in different subjects in religion from selected mosques in any place, immediate translation into different language shall be provided.

New tools

□ Special Needs of Educations

There are sector within the society requires special needs for their educations such as blind people.

OCAT to offer these applicants with special application such as: talking touch screen keyboard, brails reading device synchronized with voice activated system.

New tools

- ❑ Sections for university undergraduate and graduate studies which will be sponsored by some of well established respected university adapted the learning distance methodology.

New tools

- ❑ **ECU for general use:** The nature of the system can be used by different sector within the society to facilitate the communication between institutions and their customer, associate or subscribers such as:

New tools (Mailing system)

- **Mailing system:** ECU can be used as a mailing system to receive all the mails coming from different sectors (Government, schools, utility mails, and personal mails). Also any government form which will be downloaded from the ECU by making a request to OSR of what kind of form (Birth certificate, school forms, personal status form, ...). Also the user will be able to send a complete filled form to the respected office by using the communication method between the ECU and OSR.

New tools (E-Book)

- **E-Book:** The new era of self educating or reading to be easier and less expensive, the user shall be able to request a book to read (borrow, rent, or purchase) using the ECU communication with OSR, then the e-book will be downloaded from the OSR to his/her ECU for either reading once, or stored in his/her ECU for a period of time or even to printed using the printer interface within ECU.

New tools (E-library)

- **E-library:** All favored books will be available to the user at any time upon his/her request to be downloaded to ECU from OSR. This library will be either in e-book form or audio or even in a video (TV quality).

New tools (TV programs)

- ❑ ECU can be used as a TV set which receives an educational programs. OCAT server (OSR) will be connected to a most of TV educational channels around the world to bring to the user all educational programs in any field he wish to watch or to learn. Either local TV channels or International TV channels through OCAT international server (OSR).
- ❑ User of ECU shall be able to watch any channels as mentioned above, or request the topic and OSR will select the proper channel(s) for him.

Personal Virtual Lab (PVL)

Personal Virtual Lab (PVL)

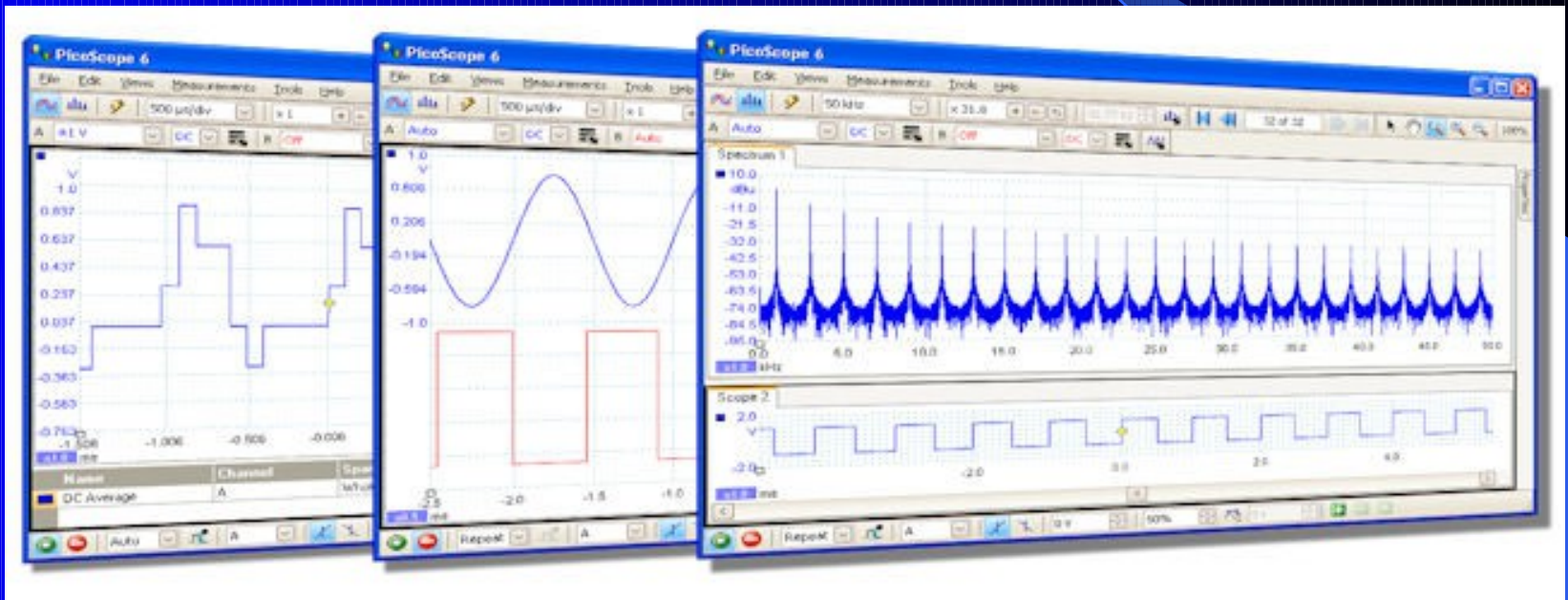
- ❑ OCAT offers the Personal Virtual Lab for students study practical subjects like engineering or computer programming.
- ❑ The PVL provides the students a complete use of the instrumentation equipments used usually in the lab.

Personal Virtual Lab (PVL)

- **The PVL uses digital signal processing (DSP) and advanced software (real time) to emulate most of electronic measurements equipments such as: oscilloscope, electronic meter, frequency meter, logic analyzer and so on.**

Personal Virtual Lab (PVL)

Computer DSP and display

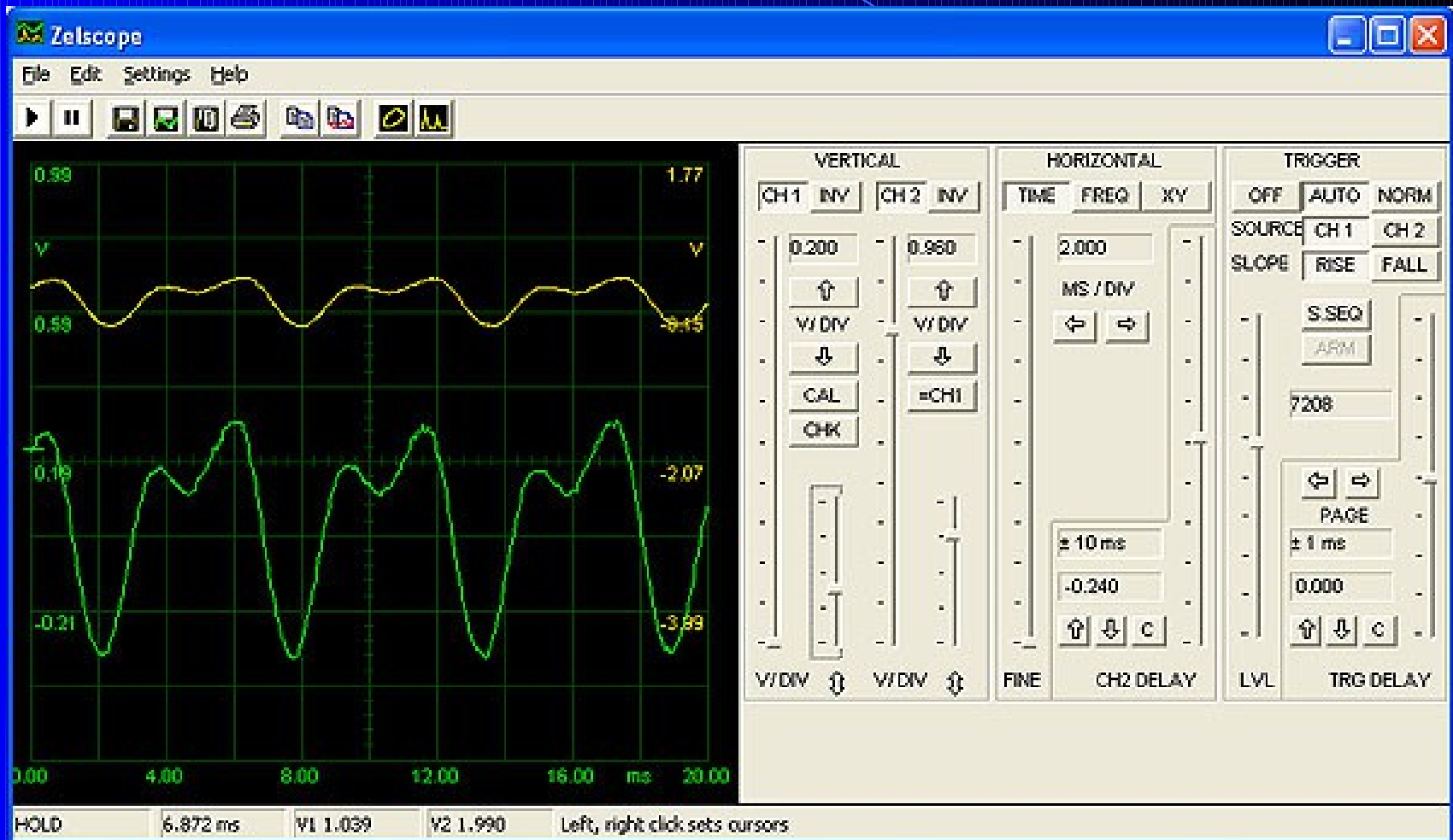


Personal Virtual Lab (PVL)



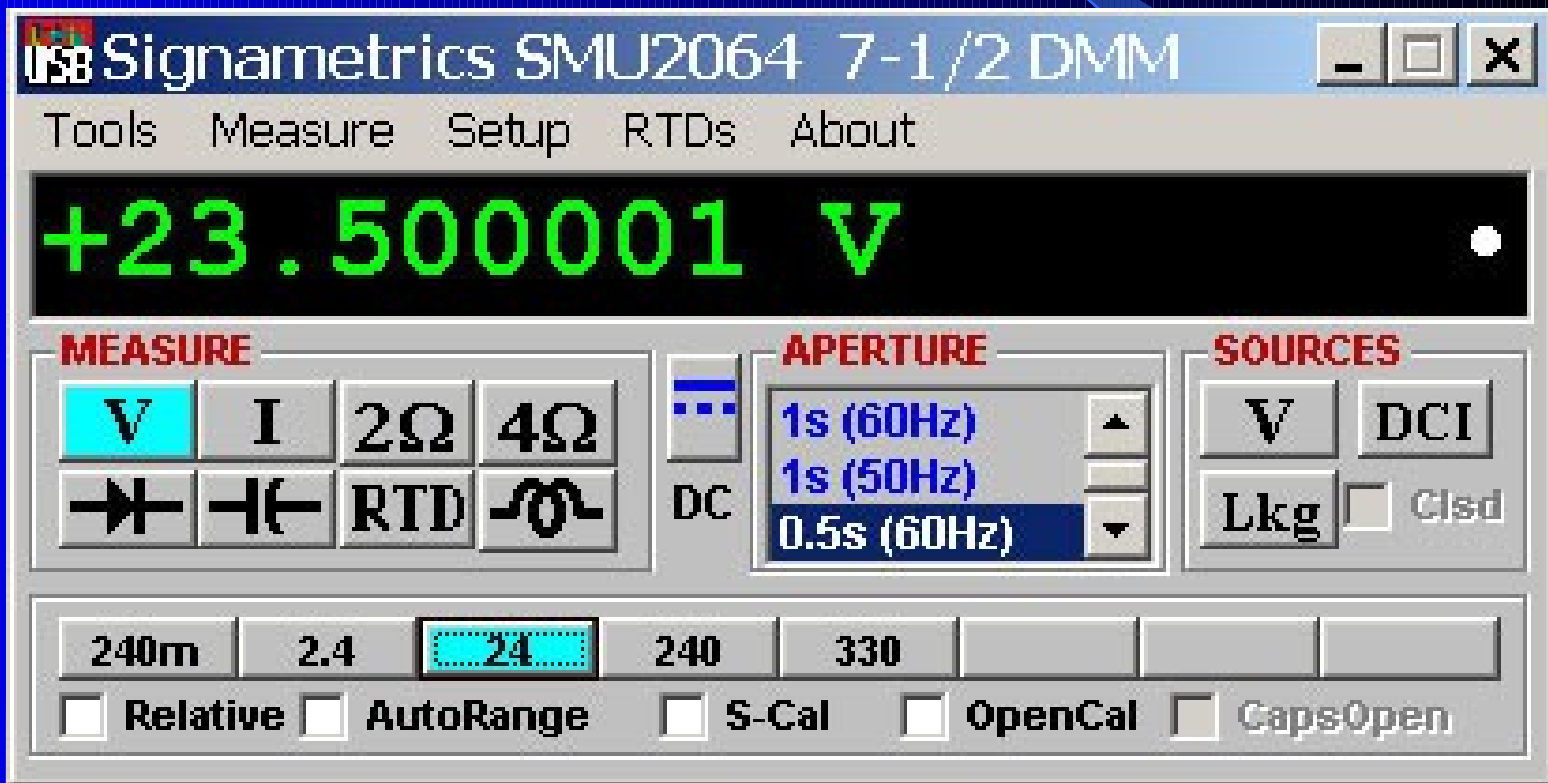
Personal Virtual Lab (PVL)

Virtual oscilloscope using ECU unit



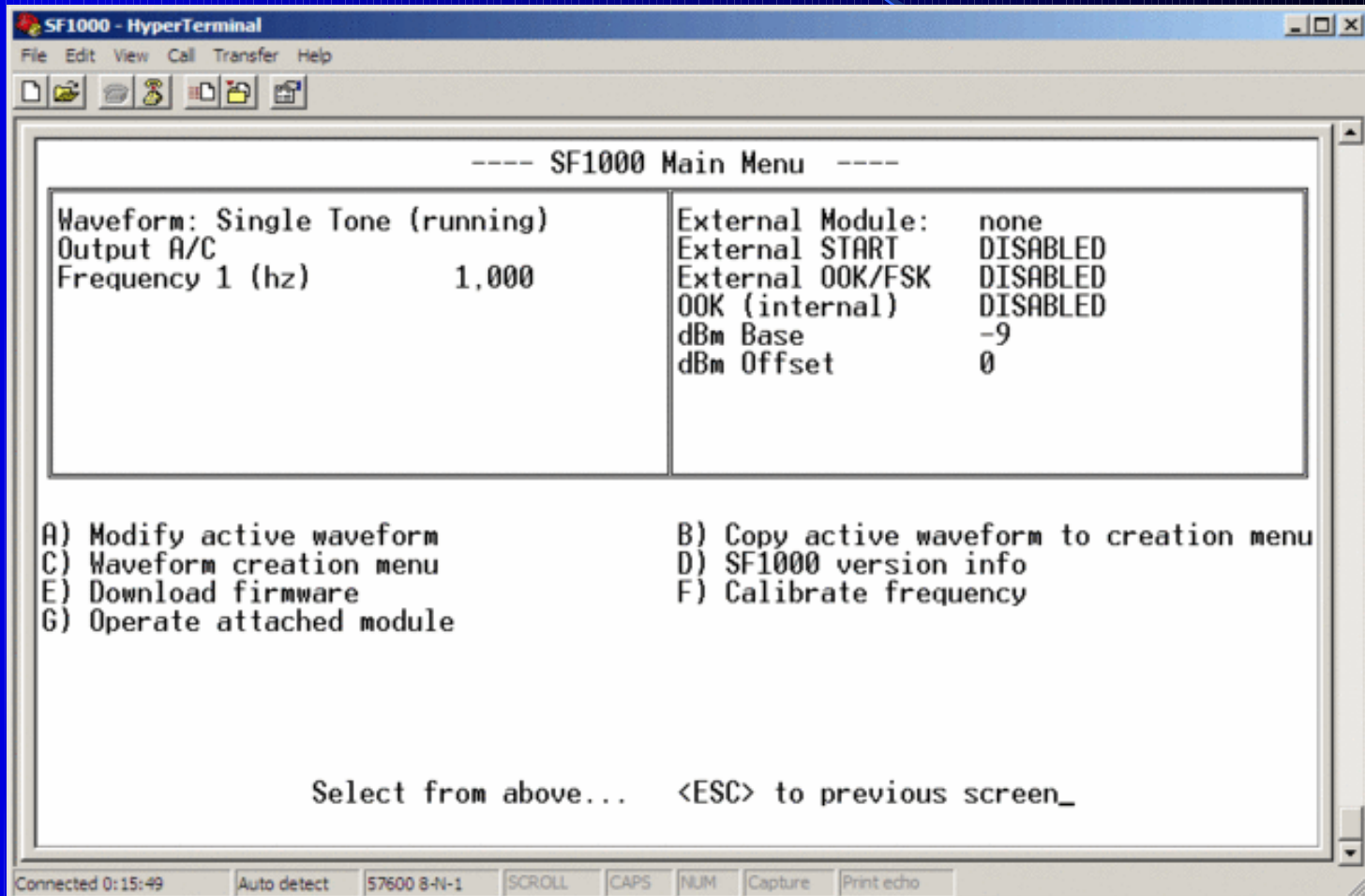
Personal Virtual Lab (PVL)

Digital Multi-meter using PLV with ECU



Personal Virtual Lab (PVL)

Signal Generator using PVL as output and ECU to program



The screenshot shows a HyperTerminal window titled "SF1000 - HyperTerminal". The window displays the "SF1000 Main Menu" with the following information:

```
----- SF1000 Main Menu -----
```

Waveform: Single Tone (running)	External Module: none
Output A/C	External START DISABLED
Frequency 1 (hz) 1,000	External OOK/FSK DISABLED
	OOK (internal) DISABLED
	dBm Base -9
	dBm Offset 0

Below the table, the menu options are listed:

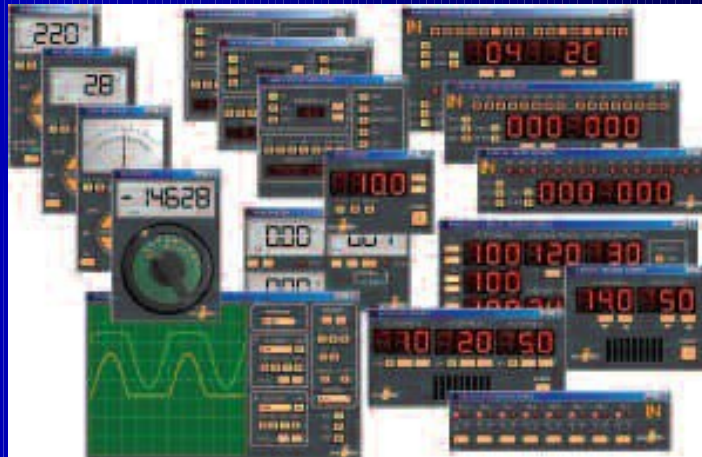
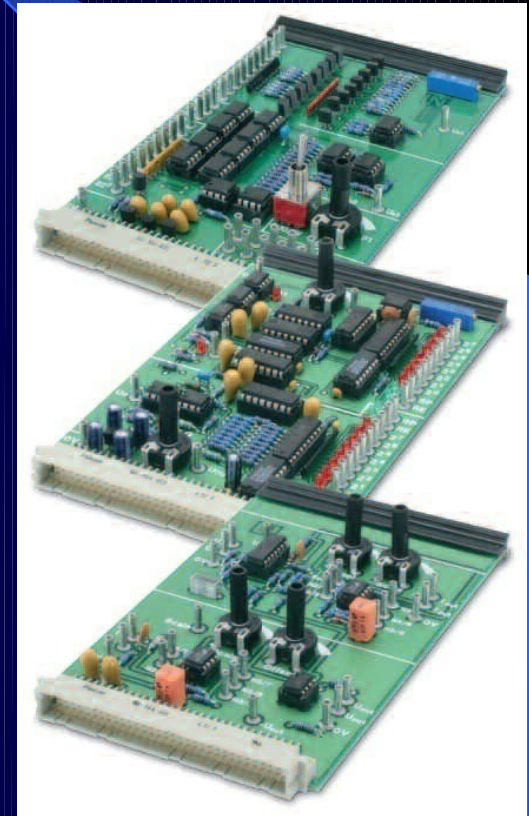
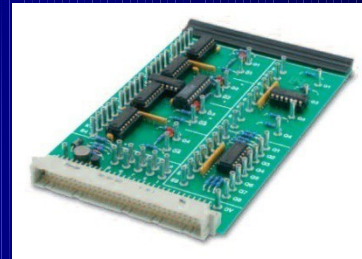
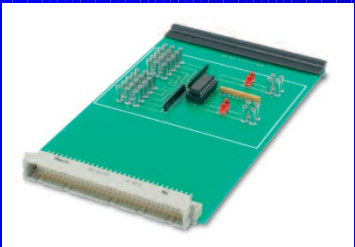
- A) Modify active waveform
- B) Copy active waveform to creation menu
- C) Waveform creation menu
- D) SF1000 version info
- E) Download firmware
- F) Calibrate frequency
- G) Operate attached module

At the bottom, it says "Select from above... <ESC> to previous screen_".

The status bar at the bottom of the window shows: "Connected 0:15:49", "Auto detect", "57600 8-N-1", "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".

Personal Virtual Lab (PVL)

Lab experiments for one term



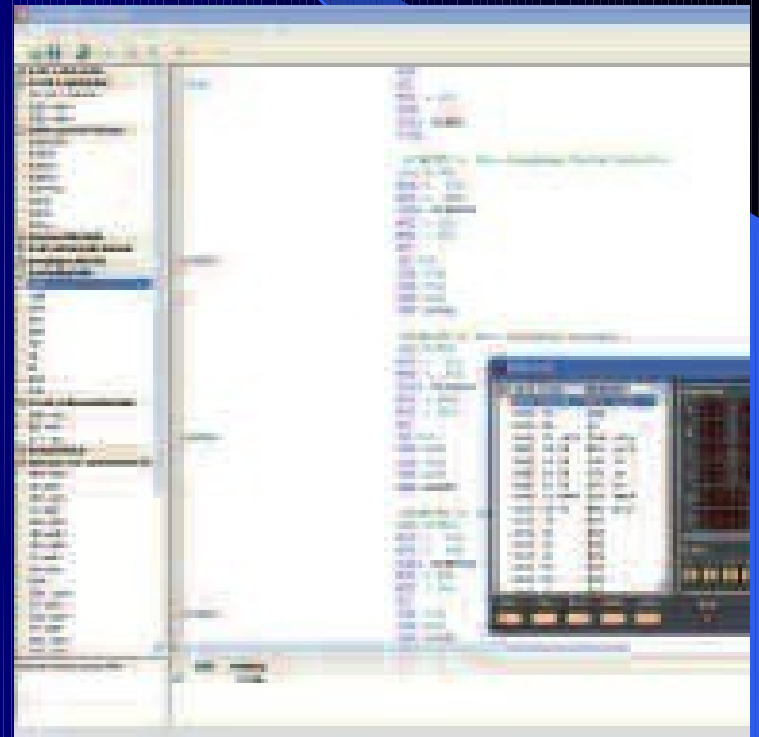
Personal Virtual Lab (PVL)

One term lab package



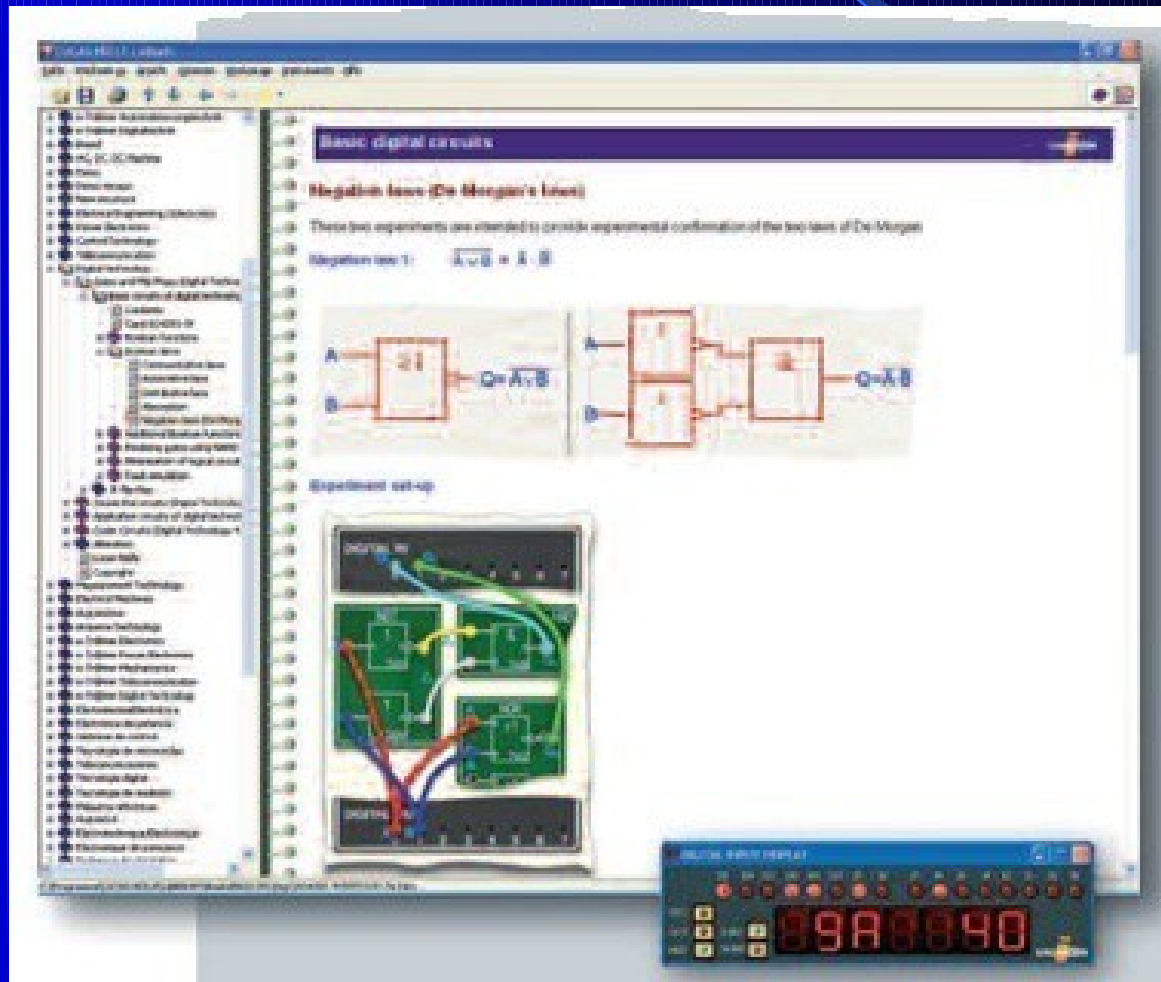
Personal Virtual Lab (PVL)

Using ECU with lab experimentation software



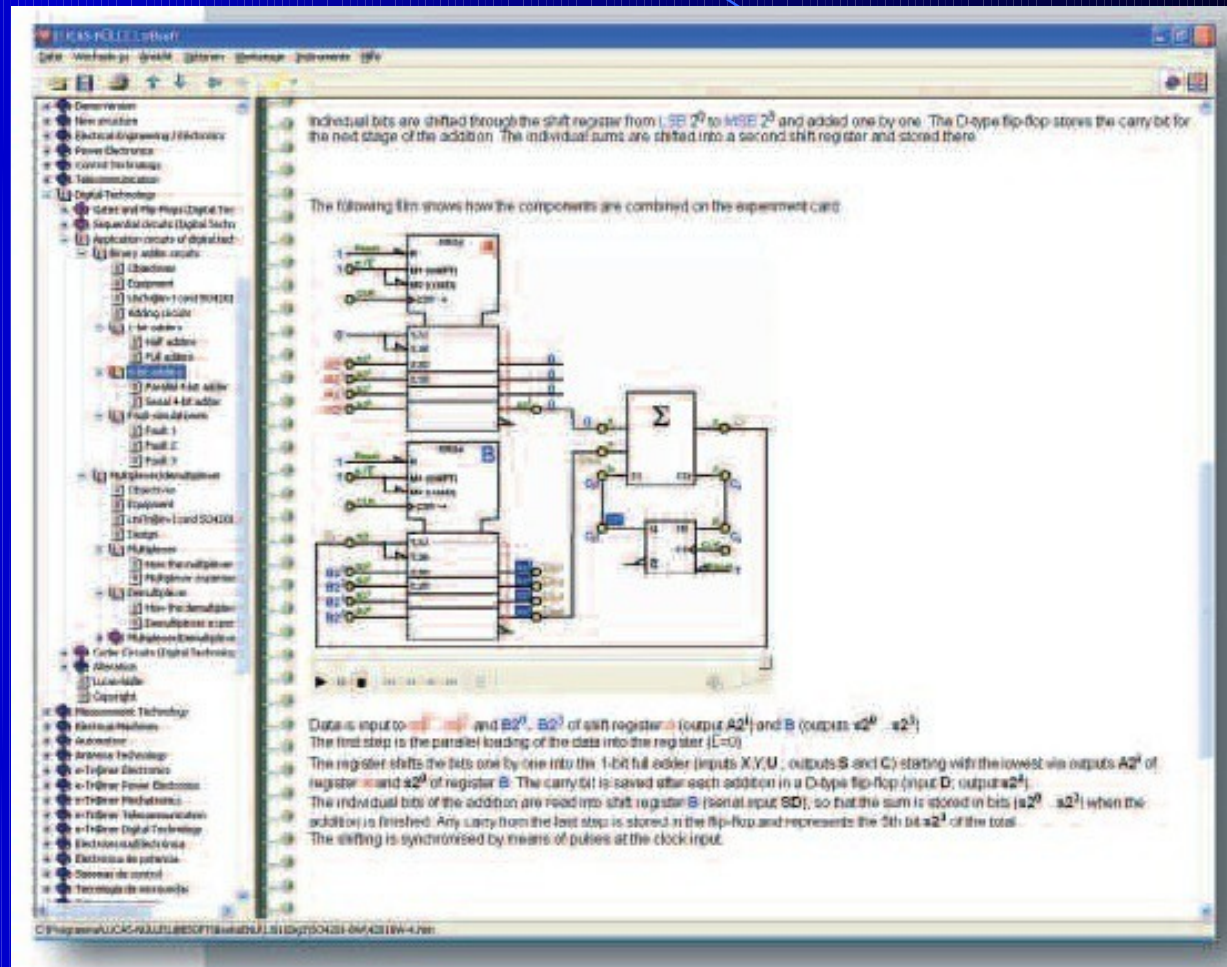
Personal Virtual Lab (PVL)

Design software Application



Personal Virtual Lab (PVL)

Components specification data sheet



The screenshot displays a software interface for a Personal Virtual Lab (PVL). On the left is a hierarchical tree view of components, including 'Digital Technology', 'Sequential Circuits (Digital Logic)', and 'Application Circuits of Digital Logic'. The main area shows a circuit diagram of a serial adder. It consists of two 8-bit shift registers (labeled 'A' and 'B') and a 1-bit full adder (labeled 'Σ'). The shift registers are connected to the full adder's inputs X, Y, and U. The full adder's outputs S and C are connected to the shift registers' outputs. The circuit is controlled by a clock signal. Below the diagram, there is a text description of the circuit's operation:

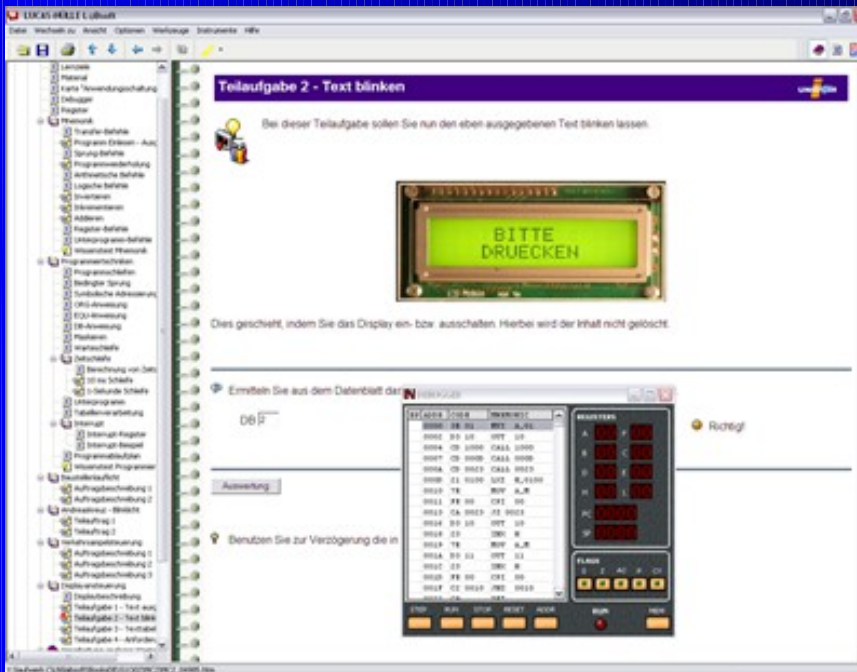
Individual bits are shifted through the shift register from $LSB 2^0$ to $HSE 2^7$ and added one by one. The D-type flip-flop stores the carry bit for the next stage of the addition. The individual sums are shifted into a second shift register and stored there.

The following film shows how the components are combined on the experiment card:

Data is input to a_7, a_6, a_5 and B_7, B_6, B_5 of shift register A (output A_7, A_6, A_5) and B (output a_7, a_6, a_5). The first step is the parallel loading of the data into the register ($L=0$). The register shifts the bits one by one into the 1-bit full adder (inputs X, Y, U), outputs S and C) starting with the lowest via outputs A_2^0 of register A and a_2^0 of register B. The carry bit is saved after each addition in a D-type flip-flop (input D; output a_2^1). The individual bits of the addition are read into shift register B (serial input SD), so that the sum is stored in bits (a_2^0, a_2^1) when the addition is finished. Any carry from the last step is stored in the flip-flop and represents the 5th bit a_2^4 of the total. The shifting is synchronised by means of pulses at the clock input.

Personal Virtual Lab (PVL)

Microcomputer Lab project



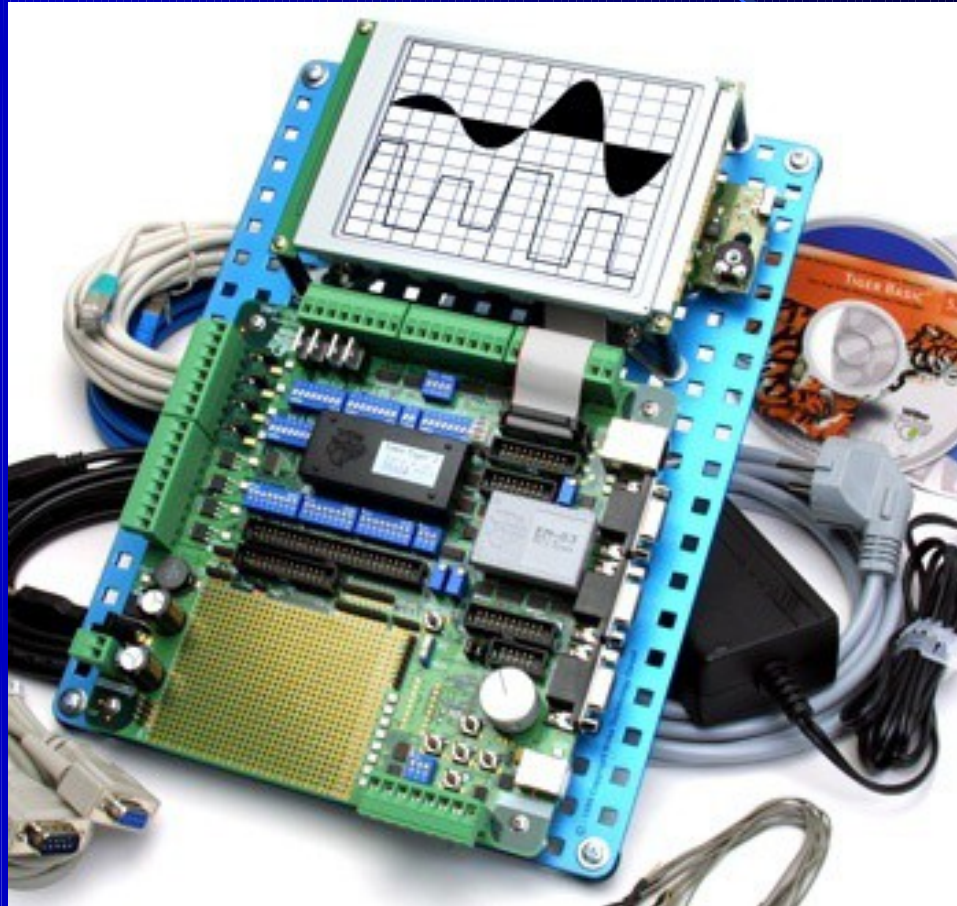
Personal Virtual Lab (PVL)

Wireless Control Project



Personal Virtual Lab (PVL)

Computer Control Project

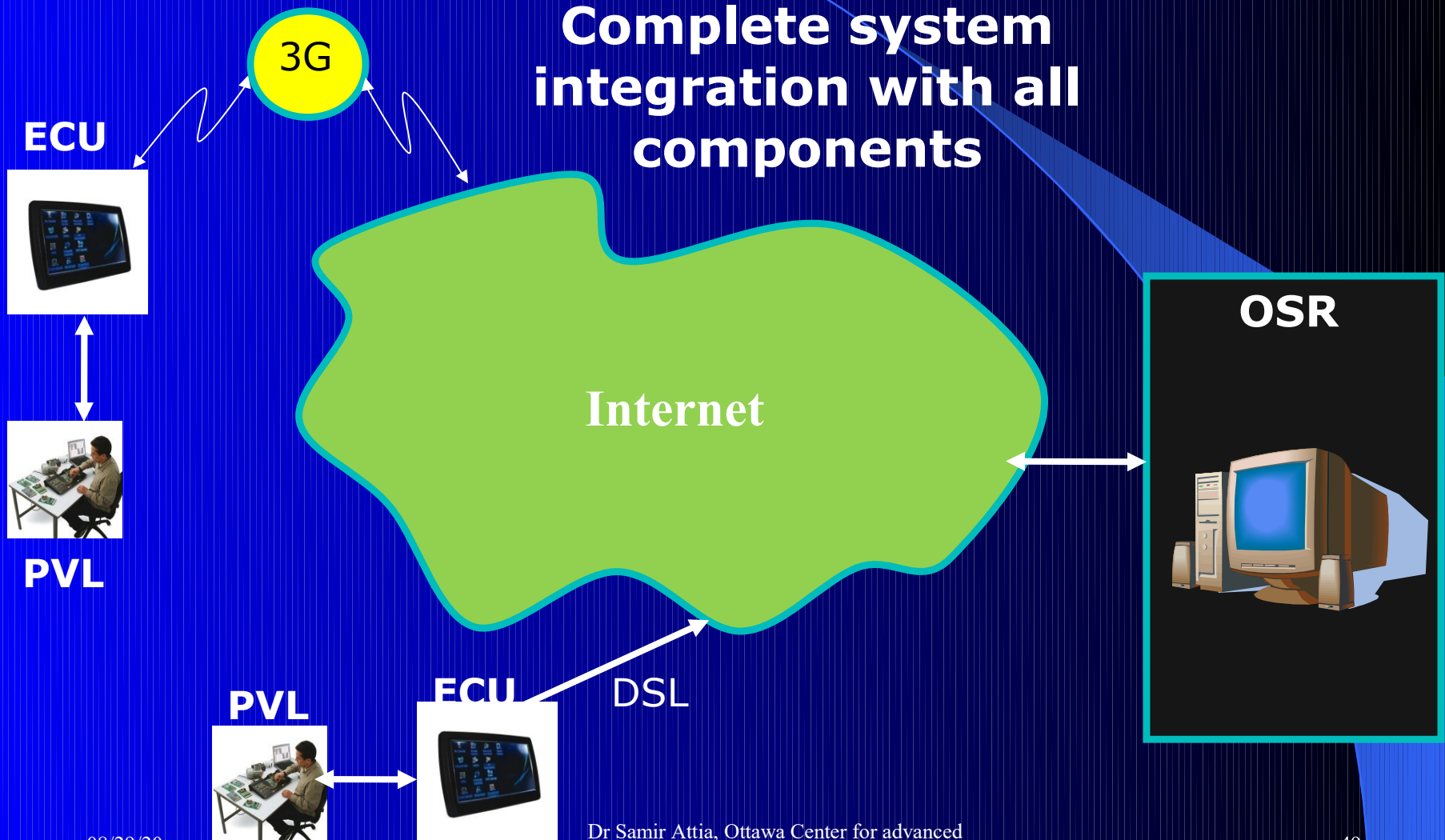


Personal Virtual Lab (PVL)

Workstation



OCAT System (ORS, ECU, and PVL)



Ministry of Education

Application Example:

For ministry of Education:

Ministry of Education

- *This project is most fit as an application for the ministry of education as a tool to be used by ministry to overcome the problem of tutoring service (private lessons) which has become a nightmare issue for the students as well as the parents. Nightmare for the parent that will face the intolerable expenses; as well as a nightmare for the students regarding the inconvenience in time schedule and confusing relationships between the school and the tutor.*

Ministry of Education

- *When the student has a unit which will be used as a tutoring service by allowing the student to receive, view, and listen to the teacher for the subject he chooses on prearranged time table for the lesson. In the main time while he/she watching the lesson he/she can press a button to indicate to the teacher that he/she wants to ask a question.*

Ministry of Education

- *The lectures will be saved in his/her unit for later view as many times as he/she wishes to watch.*

Ministry of Education

- ❑ The lecture's note will be downloaded to the student's unit to be printed for study and review.

Ministry of Education

- *This lectures will be done using the best teachers ever known in the required topic whom known by their experience in the field and repetitions.*

Ministry of Education

*Changing the concept of learning,
in the mind of students, as well as
the society.*

Ministry of Education

- Using the educational unit makes the study fun (adding the advanced graphics, animation technology, and sound effect) instead of being burdened by the tutoring system of today.

Ministry of Education

- ❑ **Change the competitions among students from the mark concept, to building a related subject project or doing research using the facility which the Educational unit can provide**

Ministry of Education

Ministry of education becomes the
first
e-ministry

Ministry of Education

- *The ministry will be able to download all the study books and materials to their student units and it would be up to the students if he/she wants to print it out or keep the book save in his/her unit.*

Ministry of Education

- *The student teacher in his/her school can use to communicate with his student using the communication link with the student's unit.*

Ministry of Education

- *The ministry will be able to send any report, notes mark, exam result to the student to his/her unit.*

Ministry of Education

- *The ministry will have a complete file for the students to be retrieved either by student or his /her teacher, also by his/her parents by getting access to the unit.*

Ministry of Education

- *The complete system will be using the ministry facilities to install the base station unit in the ministry schools and the server will be accessible by the ministry authorized personal.*

Ministry of Education

- *The student will have an ID number attached to his/her unit as a personal ID will have a complete electronic file contains all the data and information for the complete 12 years of study within the ministry.*

Ministry of Education

- *OCAT is proposing to sponsor this project from start until the completion of the system technically and administration and sharing the management with the ministry.*

Ministry of Education

- *The income from this electronic educational system will be generated from the student fees to be paid monthly by the students to get this service.*

Ministry of Education

- ❑ *OCAT proposes that the system may start as a pilot project by selecting a few geographical places for system trail. Also beside the geographical area will be applied for 3 sample levels of education (High School, Junior High, Elementary).*
- ❑ **The Ministry should obtain a frequency band from the ministry of communication to use the fourth generation wireless communication (G4) for this project**

من اقوال المسؤولين في المملكة

وتتفق الدكتورة مريم مع الدكتورة أميمة) مشرفة قسم علوم الحاسبات بكلية الحاسبات وتقنية المعلومات (في أهمية تضيق الفجوة الرقمية، وتقول: إن دور الحكومة في تطوير تطبيقات تقنية المعلومات ينقسم إلى جزئين أساسيين: الأول: يختص بالسياسات، مثل: نشر تقنيات المعلومات والاتصالات، تهيئة القطاع المعلوماتي للمنافسة العالمية، التكامل والتوازن بين قطاعات وأجهزة الدولة معرفياً.

الثاني: يختص بالآليات، فيبدأ دور الحكومة في إتاحة تقنية المعلومات لجميع أفراد المجتمع بتكلفة مناسبة وفق أنظمة وسياسات واضحة لسوق تقنية المعلومات والاتصالات، وهذا يعتبر الركن الأساسي في تكوين المجتمع المعلوماتي.

من أهم مرتكزات استراتيجيه بناء المجتمع المعرفي في المملكة هي تضيق الفجوة التقنية، وتنمية الموارد البشرية، ويكمن ردم أو تضيق الفجوة الرقمية في إتاحة الخدمات الإلكترونية بين شرائح المجتمع بتكلفة مخفضة وجودة عالية

من اقوال المسؤولين في المملكة

وقد قدر خبراء الاتصالات وتقنية المعلومات قيمة قطاع التقنية والاتصالات في المملكة العربية السعودية بحلول عام 2010م بما يقارب 120 مليار ريال، مما يؤهله لاحتلال المرتبة الثانية في الإيرادات بعد النفط.

من اقوال المسؤولين في المملكة

التحديات التي تواجه العملية التعليمية

وينبغي أن يلعب المنهج الدراسي باستخدام التقنيات الحديثة أدورا ثلاثة:

- **الدور الأول:** أن يكون وسيطة اتصال تعليمية (instructional communication medium) يتم من خلالها تصميم التعليم بصورة ميسرة في أشكال توضيحية متعددة الوسائط وتفاعلية، ويمكن باستخدام التكنولوجيا الرقمية نشر الأشرطة التعليمية الصوتية والمرئية والشرائح المصورة والشفافيات والكتب الدراسية المحدودة بالزمان والمكان إلى مختلف أنحاء العالم.

- **الدور الثاني:** أن يكون مصدر تعلم مفتوح (open learning resource) يتم من خلالها عرض المعارف والمهارات والبيانات العلمية والأكاديمية مما يجعل اكتسابها ممكنا بسهولة غير مسبوقه باستخدام تكنولوجيا المعلومات والاتصال.

- **الدور الثالث:** أن يصبح طريقة تقديم (delivery method) تتضمن كافة طرق التدريس من محاضرة ومناقشة وتعلم تعاوني وذاتي وصفي متزامن ولا صفي غير متزامن وتعلم الكتروني وتعلم متنقل وتعلم مزيج وغير ذلك من الطرق باستخدام تكنولوجيا المعلومات والاتصال.

Notice: OCAT system satisfies all the above requirements

من اقوال المسؤولين في المملكة

مدرسة المستقبل

د. نايف بن هشال الرومي

وكيل وزارة التربية والتعليم للتخطيط والتطوير

إن الظاهرة التي تلوح أمامنا في هذا العصر تتمثل في أن المجتمعات تتغير في أنحاء العالم كله، إذ أخذت المعلومات تؤدي دوراً مهماً ومنتزاعاً في الحياة الاقتصادية والاجتماعية والثقافية والسياسية في الدول المختلفة.

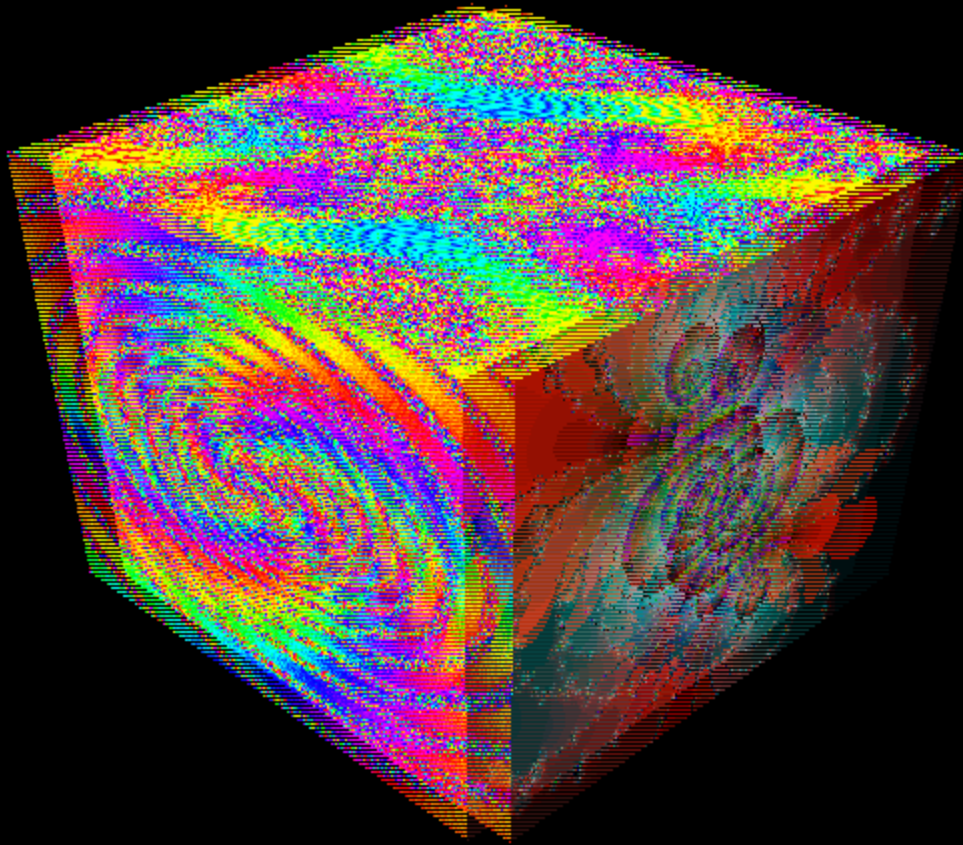
ولعل أبرز ما أثر في حياة هذه المجتمعات التطورات التي تشهدها تقنية المعلومات، والتي تعرف على أنها تعني اقتناء المعلومات، ومعالجتها، وتخزينها، وتوزيعها، ونشرها في صورها المختلفة النصية، والمصورة، والرقمية بواسطة أجهزة تعمل إلكترونياً وتجمع بين أجهزة الحاسب الآلي وأجهزة الاتصال من بعد.

وذلك يقودنا إلى دور هذه التقنيات في مجال التعليم حيث يرى دعاة تطوير التعليم أنه يجب دمج هذه التقنيات في مدرسة المستقبل، والتي يرون أنها مدرسة لا تفصل الجدران والحواجز فصولها ومرافقها عن العالم الخارجي، وذلك يضع الطلاب أمام تحديات يجب أن ننتبه لها من حيث القدرة على التعامل مع هذه التقنيات، وكذلك امتلاك مهارات التفكير العليا التي تجعلهم قادرين على التعامل مع الكم الهائل من المعلومات التي تضخ في عالم اليوم، والذي يطلق عليه عصر الانفجار المعرفي.

وهذا يقدم لنا صورة واضحة حول شكل **مدرسة المستقبل** من حيث البنية التقنية، فهي مدرسة يتوفر فيها إمكانات كبيرة في مجال تقنية الحاسبات والاتصالات والمعلومات، أما من حيث الرؤية التعليمية فهي مدرسة تشجع الطلاب على التعلم الذاتي، وتتيح لهم الوصول إلى مصادر التعلم المختلفة من خلال تقنيات الحاسب وشبكات الاتصال والمعلومات.

وهذا يزيد من حجم المسؤولية التي تقع على عاتق المعلمين في تطوير قدرات المتعلمين ليصبحوا قادرين على تعليم أنفسهم، بدلاً من تحفيظهم وتلقينهم المعلومات والمعارف، وهذا يتطلب تطوير مهاراتهم في البحث المعلومات وتحليلها وتقويمها.

True 3-D



Requires a special eye glass to see true 3-D picture

Financial Proposal

Financial Proposal

□ Investment

OCAT seeks an investment to start the design and production and market of the entire system. Originally will be in Saudi Arabia and then may expand through the entire Middle East region.

Financial Proposal

**The total estimated required fund is
around \$20 M US.**

Financial Proposal

	One account/unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
	Assumption: One course/year/account EX: (high school) Income		Estimated Budget for the first year (US \$)	Estimated Budget for the second year	Estimated Budget for the third year	Estimated Budget for the fourth year	Estimated Budget for the fourth year	X 1,000
1	No. of units		10,000 units	15,000 U	20,000 U	25,000 U	30,000 U	100
2	Number of PVL		1,000 units	1,500 U	2,000 U	2,500 U	3,000 U	10
3	Sales Price: (\$950 end user)	\$850/unit	8,500,000	12,750,000	17,000	21,250,000	25,500,000	85,000
4	Sales price: \$1,500/PVL		1,500,000	2,250,000	3,000	3,750,000	4,500,000	15,000
5	Activation fee (\$70)		700,000	1,050,000	1,400	1,750,000	2,100,000	7,000
6	Cell phone /internet feature	\$500/year	5,000,000	12,500,000	22,500,000	35,000,000	50,000,000	125,000
7	Course registration (average 3 courses)	\$ 450 Term	4,500,000	11,250,000	20,250	31,500,000	45,000,000	112,500
8	Service charge \$60/month		00	00	00	00	00	00
9	GPS Service ,special for ECU		00	00	00	00	00	00
10	Total Income:		20,200,000	39,800,000	64,150,000	93,250,000	127,100,000	344,500

Financial Proposal

11	Expense:	Year 1	Year 2	Year 3	Year4	Year 5	Year 6	Total
12	Production Cost:	\$600/unit	6,000,000	9,000,000	12,000,000	15,000,000	18,000,000	60,000
13	Production Cost:	\$800/PVL	800,000	1,200,000	2,000,000	2,400,000	2,800,000	9,200
14	Service:							
15	1- Communication link)	\$20k/M	250,000	250,000	500,000	750,000	1,250,000	3,000
16	2- Maintenance (HW/SW)		800,000	1,000,000	2,500,000	3,500,000	5,000,000	12,800
17	3- Marketing		2,000,000	3,000,000	5,000,000	6,500,000	7,000,000	23,500
18	Management OA	1,500,000	2,000,000	2,000,000	2,500,000	3,000,000	3,500,000	16,000
19	Initial Cost (development)							
20	1- 3D video /audio studio	2,500,000	1,000,000	1,000,000	1,500,000	1,500,000	2,000,000	9,500
21	2- Unit design (HW, SW)	2,500,000	500,000	500,000	500,000	500,000	500,000	5,500
22	3- PVL Unit Design	1,500,000	500,000	500,000	500,000	500,000	500,000	8,500
23	3- Data Bank (20 Major Courses)-more	3,500,000	1,000,000	1,500,000	1,500,000	1,500,000	1,500,000	10,500
24	4- Server set up (SW/HW)/maintenance	600,000	1,000,000	1,000,000	1,000,000	1,000,000	1,500,000	6,100
25	5- On line teachers fee		2,500,000	3,750,000	5,000,000	6,250,000	7,500,000	25,000
26	6- Teacher royalty		000	000	00	00	000	000
27	Satellite communications		250,000	250,000	500,000	750,000	1,250,000	3,000

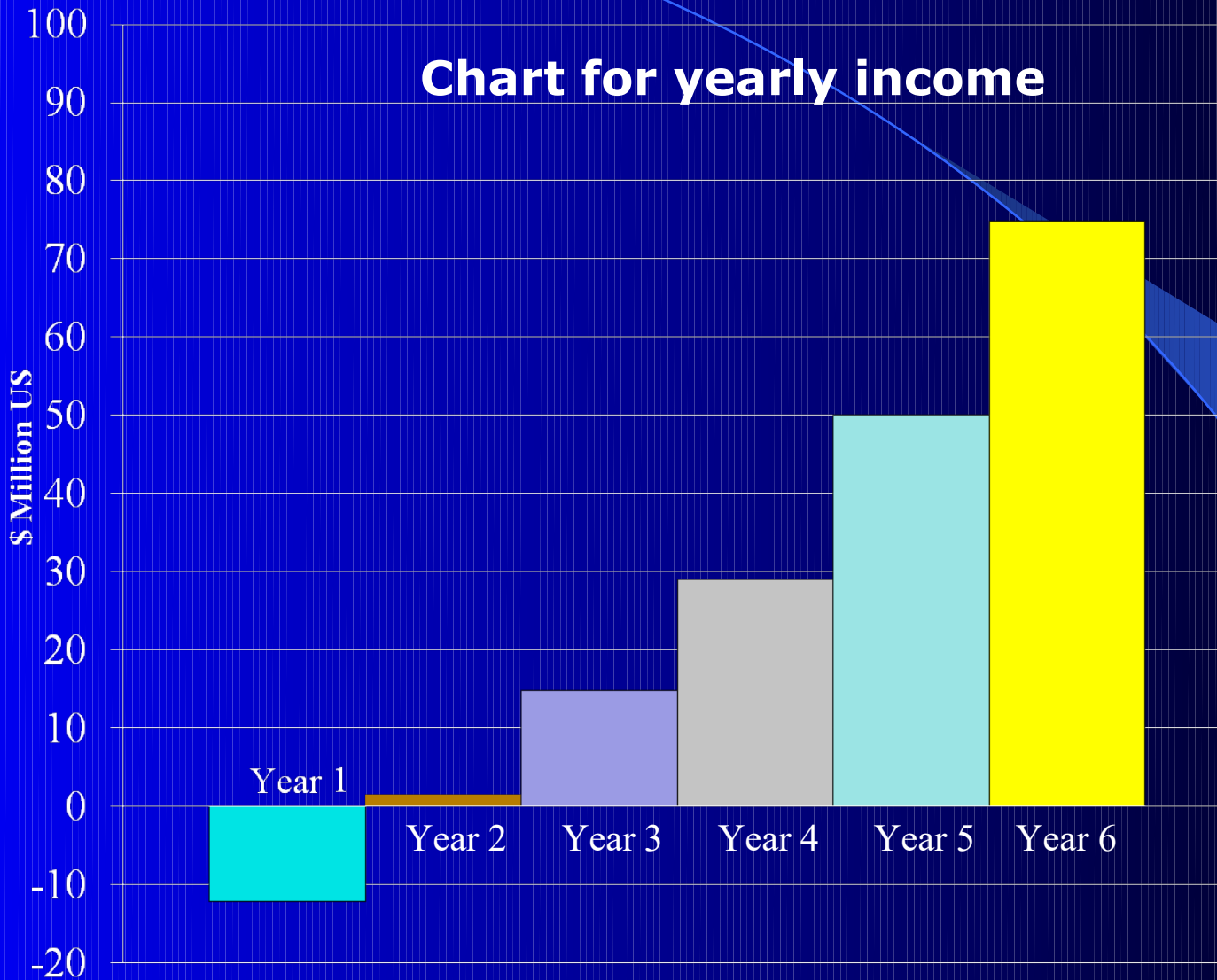
Financial Proposal

		Year 1	Year 2	Year 3	Year4	Year 5	Year 6	Total
28	Total Expenses	(12,100,000)	(18,600,000)	(24,950,000)	(35,000,000)	(43,150,000)	(52,300,000)	(186,100)
29	Net Income	(12,100,000)	1,600,000	14,850,000	29,150,000	50,100,000	74,800,000	158,400
30	Accumulated net income	(12,100,000)	(10,500,000)	4,350,000	33,500,000	83,600,000	158,400,000	

Financial Proposal

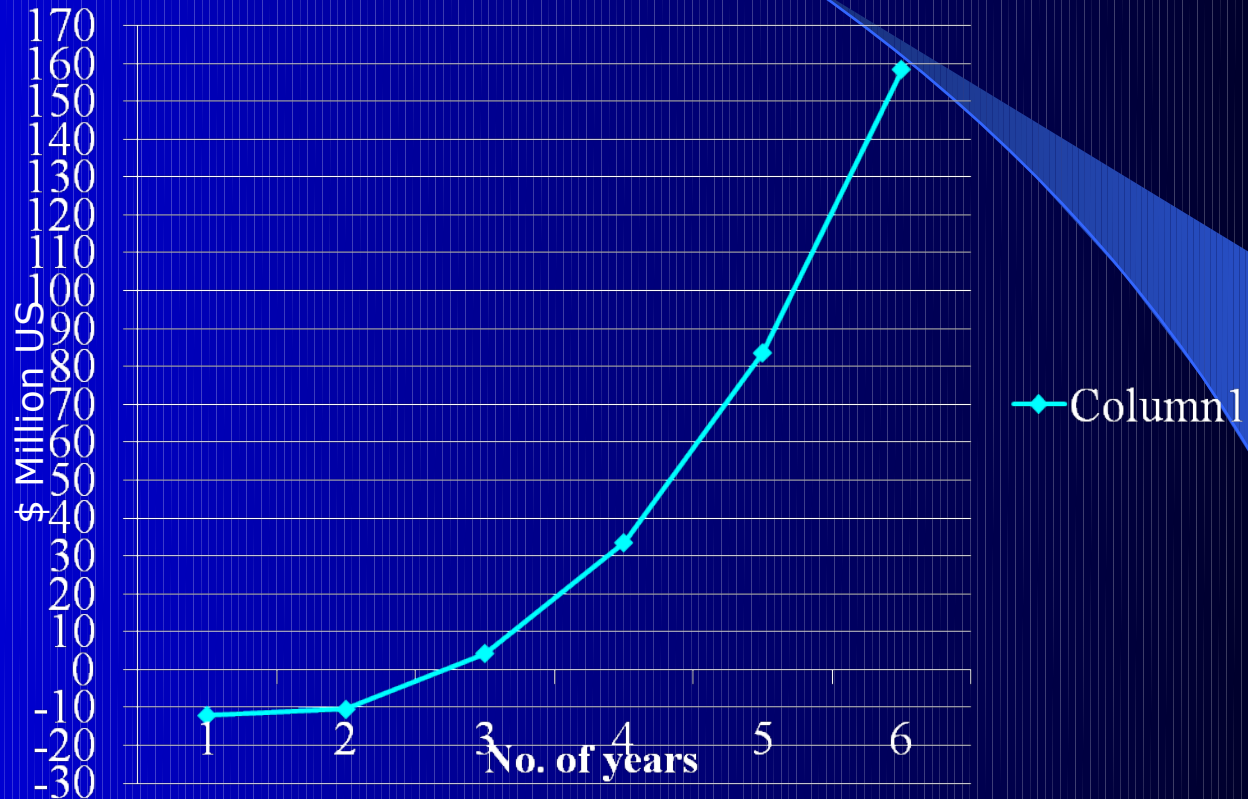
Total Net Income for 6 years	\$158,400,000
Average net income (profit) per	\$26,400,000
<u>Year</u> <u>percentage of yearly profit before</u>	About 132%
<u>distributions</u>	

Financial Proposal



Financial Proposal

Chart for accumulated net income (profit)
Over 6 years



Financial Proposal

Notes (financial plan):

- ❑ The study based on the assumptions that the product will be marketed only using OCAT developed courses and there is no other institute has joined the network or using the educational institute administrative or educational software.
- ❑ The study does not show the potential of a private international school may join the OCAT network.
- ❑ The study does not indicate any large potential project either within the ministry of education or any other country educational sector.
- ❑ Based on one term /year, if two term or three terms then will be two or three courses per account not only one.

Financial Proposal

- ❑ Based on one account per unit, the design allows for maximum of 3 accounts per unit (if three accounts per unit with 3 courses per account per term, then the unit will be fully timely utilized).
- ❑ The study does not show any other potential business could be applied to the network such as video true 3D games, wireless communication services such as: data collection service, wireless control systems (using our communication channels)
- ❑ The study does not show the large business potential of using the network system for commercial advertizing.
- ❑ The study does not show the potential business from other institutes who wish to build similar system to serve and enhance their educational system.

Comparison between ECU and different products in Saudi Market

Product Features	Omni II	HTC HD2	BlackBerry 9000	Nokia N900	OCAT ECU
Screen	3.7 Touch	4.3	2.6	3.5 Touch	7 Touch
Camera	5 MP	5 MP	2 MP	5 MP	5 MP
Flash memory	16 GB	No	1 GB	32 GB	64 – 160 GB
Wi-Fi	Yes	Yes	Yes	yes	Yes
Bluetooth	Yes	Yes	Yes	No	Yes
3.5 G	Yes	Yes	Yes	yes	Yes
4G-WiMax	No	No	No	No	Yes
GPS	Yes	Yes	Yes	No	Yes
Satellite modem interface	No	No	No	No	Yes
Big screen Interface	No	No	No	No	Yes
Printer Interface	No	No	No	No	Yes
USB Interface	Yes	Yes	Yes	Yes	Yes
Price: (SR)	2,279	3,299	2,299	2,999	<u>3,500</u>

Comparison of services provided by OCAT Network and different Providers in Saudi Market

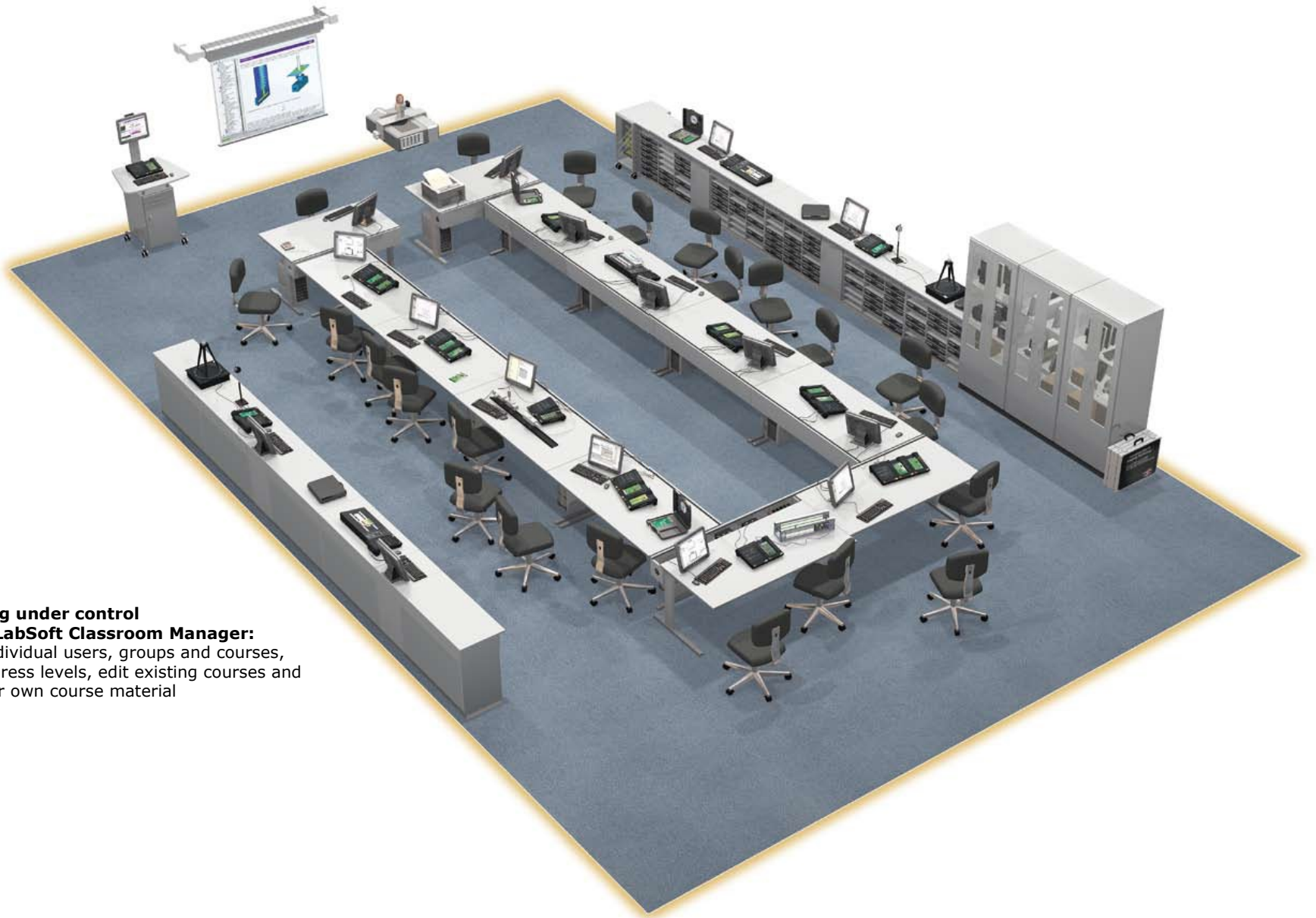
Product Features	STC	Mobily	Zain	OCAT Service
Bandwidth	2 M	2 M	2 M	2M
Maximum Load	1 GB 100 SR	2 G 100 SR	350 M	5 GB 150 SR
Same provider calls (10 hr/M)	180 SR	72 SR	72 SR	Free
Local / International Calls (10hr/M)	300 SR	400 SR	400 SR	200 SR
Education tutoring Services	No	No	No	Yes (Up, down load included) 150 SR
Maximum load (student)	No	No	No	20 GB
Microsoft Office	Yes	Yes	Yes	Yes
Automatic Download	No	No	No	Yes
Storage (virtual hard disk)	No	No	No	100 GB
Data Encryption	No	No	No	Yes
Special Service for blinds	No	No	No	Yes (special charge)
Price: (SR) (monthly charge)	580	572		<u>500</u>

Comparison between OCAT e-school and different Internet e-learning concept

- ❑ OCAT e-school and e-classroom concepts are based on real time live interact between teachers and students using video / audio wireless/ internet multimedia. For every class (30 students) there is a class teacher and subject teachers dedicated for each specific class subject combined with all educational high technology support (recorded 3-D class, discussion period between teacher and students, 3-D animation illustration graphic, questions and answers period, and a new assignment due next class and semi, and final exam. The interactive system will build a teacher/student personal relationships. For every class lesson or lecture will be with the same students and same subject teacher having a live discussion.
- ❑ Internet learning system does not have any of the above features, there is no dedicated server and no online e-teacher in e-classroom as OCAT system may provide.

Comparison between OCAT e-school and different Internet e-learning concept

- OCAT uses the most sophisticated true 3-D video animation to provide a complete school environments and entertainments such as:
 - Students Chats room (Cafeteria): This room will be available for students to join in his free time either for pre defined subject discussions or free discussion. Round table and animated students shapes and dress will be shown as a true 3-D video animation.
 - Field Trips: OCAT will arrange for field trips with a class of students. These trips will be arranged by a school tour guidance and be selected among most exited places. and then recorded and animated using 3-D true video, the student uses his way in the trip starting from school place, riding the bus with his peers, arrives at a show place (museum, zoo, science center, and so on). These places will be chosen from the most exited places around the world such as: space center in Florida, USA, Niagara falls in Canada, eiffel tower in Paris, pyramids in Egypt, and so on.
 - **E-learning through internet uses a classic method for uploading a slides or video lectures in the system and is up to the students to download and watch. No live discussion neither field trips nor free discussions between peers.**



**Everything under control
with the LabSoft Classroom Manager:**
Manage individual users, groups and courses,
check progress levels, edit existing courses and
create your own course material