

Online Compiler

Complete Business Plan

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CONTENTS

Contents	2
Online Compiler.....	4
Executive Summary.....	4
Screen-Shot of Some of the Implemented Features	5
Is this Solution/Idea Unique?	5
Business Model (Products and Services).....	5
General Users	6
School/ Colleges.....	6
IT Companies	7
Group of IT Developers	8
Conduct Online Coding Contests.....	8
Leasing Computational Power	8
Technical Description.....	9
High-Level Architecture	10
System Specification (Only Software).....	10
Source Code (for Demo Website)	11
Market Research	11
Market Size	11
Competition & Growth.....	13
Marketing Plan	14
Online Advertisements.....	15
Viral Marketing	15
Exclusive Tie-ups (White-label partnerships).....	15

Online Registrations	16
Off-line Channels	16
Financials	17
Operational Cost.....	17
Marketing Cost.....	21
Revenue Sources	22
Estimated Revenues	24
Profits	25
Funding.....	26
Operational Plan	27
Team.....	27
Location.....	27
Current Status	28
Barriers to Entry	28
Time to Market	29
High Level Scoping (In Terms of Phase-Wise Development).....	29
Appendix	30
Working Demo Web Site Look And Feel.....	30



ONLINE COMPILER

EXECUTIVE SUMMARY

Online compiler is a web based tool for compiling programs (modelled on the concept of SAAS). The idea behind this solution is to focus on coding and not bother about installation of respective software's/compilers. Through this web based solution we will greatly simplify the process of writing & compiling programs in any open source languages like C, C++, Java, PHP, PYTHON, PERL etc. as there will be no need to install the related compiling software on one's own machine.

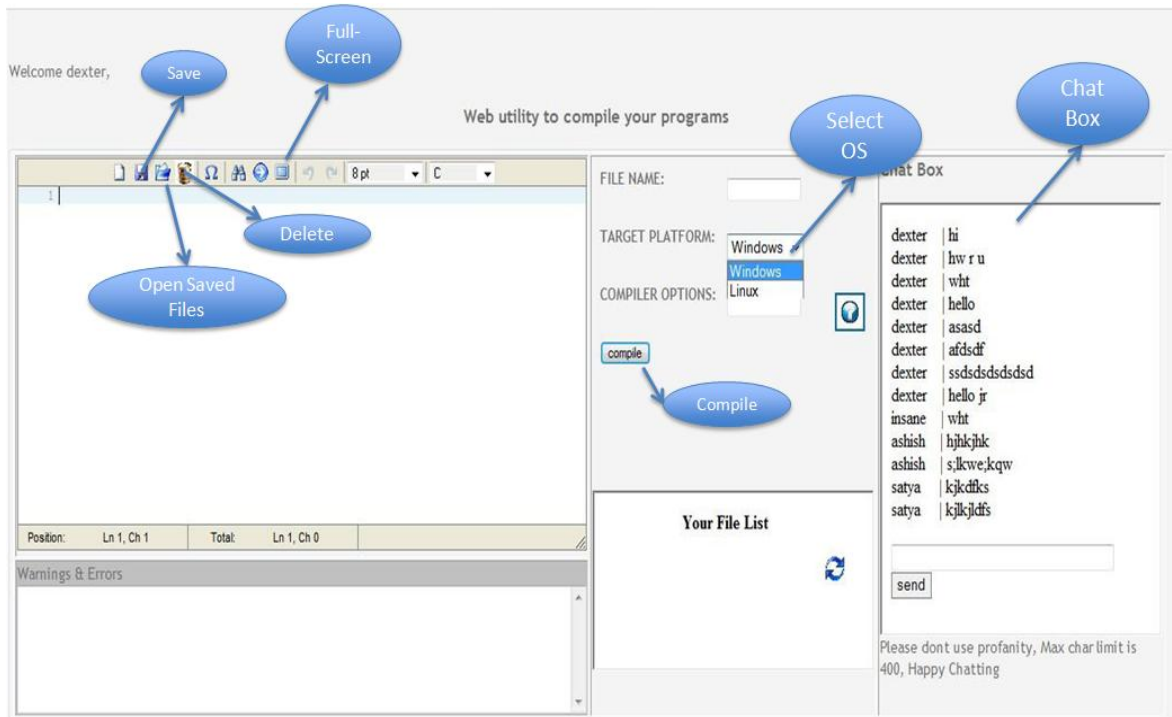
What this website solution does is it lets the user create a profile, write programs online using interface development environment (IDE) provided and compile them online (not on local/host machine). User can subsequently store/save/delete programs into dedicated space provided per profile which will then help them to access all their written programs from anywhere in the world. All that is required is a computer of decent configuration and internet connection to access website.

Some of the salient features of this website are:

1. No need to install any compilation software's like Turbo C, Eclipse, Visual Studio etc. No knowledge of installing software is required
2. One stop place for writing/compiling any open source language program like C, C++, Java, PHP, PYTHON etc
3. Option of compiling programs for Windows or Linux platform (Can be extended to other operating system too over a period of time)
4. Generation of executable (.exe) files on successful compilation of programs which can be downloaded and run on one's machine
5. Display of errors and their description in case of wrong/bugged code
6. Dedicated space for storing/sharing programs online

7. Supports creation of full-fledged projects and link multiple files for compilation
8. Online chat facility to discuss doubts with other users available online

SCREEN-SHOT OF SOME OF THE IMPLEMENTED FEATURES



IS THIS SOLUTION/IDEA UNIQUE?

Yes, with respect to the business model that we have been able to build around our solution and no, with respect to our core concept of online compilation of programs.

We are not sure as to why someone has not thought of and executed such an idea and try to establish the business model that we have explained below. We have seen a couple of websites which does allow compilation of programs online, but none has succeeded to generate the buzz or consumers/users are unaware of them.

BUSINESS MODEL (PRODUCTS AND SERVICES)

Though the core idea behind the website is to compile programs online (without the need of software, in our case respective open source compilers on one's own machine), users of this

website can be segmented into various categories, which then forms the basis for different business models:

GENERAL USERS

This category consists of individuals like school students, college students, professionals etc. Our research shows that lot of people abstain or avoid programming because of the tedious process of finding and installing software's and then trying to understand the functionalities to use them.

Also sometimes there are people who want to learn programming on Linux, but do not have Linux OS installed on their machine. It is here that this website simplifies everything by asking users to directly type programs and compile. Once a user log's into one's profile, user will be provided with various options with respect to writing/compiling code, which will be simplified version of various complicated options provided in compilers. Also user will be provided with option to select the operating system (like Windows, Linux) they want to write program for.

Coupled with this online tutorial on programming languages will be provided. These tutorials will be re-written in such a format so as to make students grasp the right basics, which is the need of the hour. (One of the successful examples of online programming is <http://herokugarden.com/> for Ruby on Rails)

SCHOOL/ COLLEGES

This website can also be packaged as a standalone product and deployed in schools and colleges, wherein a teacher can use the online repository to set questions for each student individually and monitor them. Currently most of the schools/colleges use Turbo C/C++ compilers, which are installed in individual machines. Students then individually work on these systems, write and store program.

This current system involves the administration to have installed software in each system, thus creating a distributed environment. This not only poses a challenge for the maintenance of computers and software's, but also incurs additional cost for many licenses.

At the same time even students finds tough with respect to storage of his/her programs, because each time they come to work on it they get different systems (as in seating for a student is not fixed). With the above mentioned packaged software, a student can use any computer and login into his/her profile and access his/her stored programs. Also if these systems have internet connectivity then these programs will be automatically saved into respective online repository, which students can access from home or any place, and thus never have to bother about storing files in CD's & DVD's.

Also because of server/client SAAS architecture, software only needs to be installed in servers and clients will access the facility by connecting to server. This will invariably reduce the multiple license cost and maintenance of 100's of client computer.

Another important feature this packaged software can provide is with respect to centralized methodology of teaching. The user architecture is designed such that all the students profile will be under the teacher's/professor's profile. In such a case teachers/professor's can set the questions for all students, guide them and would be useful to conduct exams.

IT COMPANIES

Online coding facility can help Indian IT companies in recruiting more suitable candidates by testing their coding skills online. The normal process of recruitment involves inviting a candidate to company for a face to face interview. This process however is time and money consuming.

But by modelling the website to take secure exams online, a company can ask a candidate to take test set by them from anywhere. The company profile will have privileges to set questions and subsequently create test scenario for candidates. Using online compiler facility, a candidate will be able to answer and write programs and test it. The company official can then access the written code (and generated exe on successful compilation) and assess the candidate. This way an IT company can cut costs and time involved in recruitment.

GROUP OF IT DEVELOPERS

Integrating open source software configuration management software like CVS, we can provide the facility wherein users across the world can collaborate and develop programs/projects. How this would work? Suppose one person (anywhere in the world) gets some idea on which the person would like to collaborate and a project can be kicked off. He/she then floats the idea and looks for interested people. He/she can then add these users under one group control id. All the changes then made can be tracked and functionalities like check-in/check-out will be provided and will thus help users to collaborate and develop projects.

CONDUCT ONLINE CODING CONTESTS

With plethora of engineering colleges in India and their annual cultural/technical festivals, the scope to conduct online coding contests can be done at an ease. Today almost every top college has coding contest to figure out the best coder, but this requires students from various parts of country to assemble at the college (or in some cases codes had to be written off-line and sent in time). But the penetration of computers is still very low and not all students have access to personal computers.

Therefore we can tie-up with colleges during their technical festivals and launch contests online. This way each user will get the same playing field. Even students who do not have access to personal computers and internet can participate in contests by visiting a near-by internet browsing center and just login into website to participate. One does not have to bother about installation of compilers or presence of OS (as we will be having option of writing programs for various OS like Windows or Linux).

LEASING COMPUTATIONAL POWER

Although this space in terms of market size is small, it will help us to position ourselves as a provider of unique service. There are times when research based organizations need access to high speed computing to run their programs. It is here that we plan to lease out our computational power to outsiders (over secure line).

Anybody who wants to run their programs can access our servers and compilers back-end and run their programs. We have still not identified the exact proposition as how will be going about giving this service, but given that anything is possible over internet, we can make sure we lease out our computational power. We also realize that this particular service might pose risk of virus/Trojan attack, but we have identified few steps as well as authenticity of such research based organizations as an option to avoid such attacks.

TECHNICAL DESCRIPTION

The foremost goal would be to deliver hassle free and an enjoyable experience to the user, for which the system should be fast and reliable. Also implicit requirements such as high availability, scalability and performance should be considered. We believe by leveraging the open source products and using commodity hardware, a stable, reliable and fast system can be developed. We identified following design considerations.

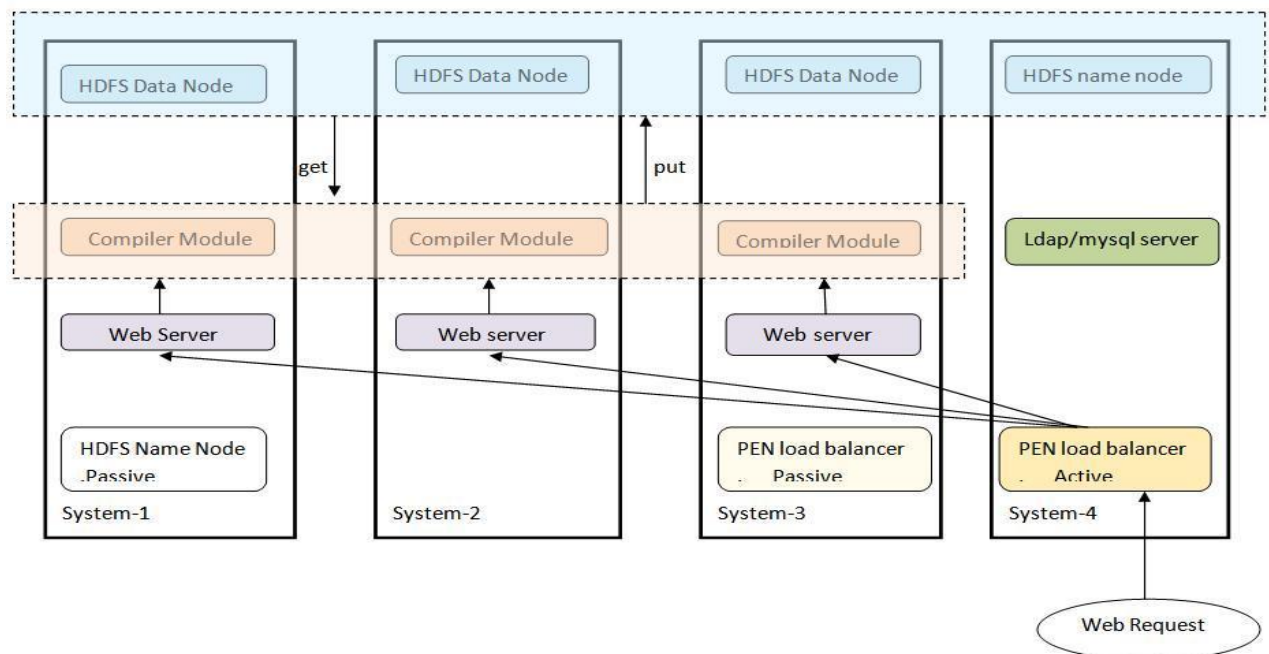
- 1) Separate storage and computation modules for making the system modular and scalable. A distributed file system like hadoop¹ (although it currently assumes write once and read many semantics, active work is being done to include write many and read many semantics) suites the requirement. A computation module needs to be developed for doing the compilation using API provided by hadoop.
- 2) Move computation process to data location rather than moving data close to computation. This improves the speed of the compilation process and hence less wait time for the user. Couple computation module with HDFS and migrating computation to appropriate name node by querying name server for file chunk location.
- 3) Add redundant services and machines to make the system reliable. PEN load balancer manages the html traffic among the web servers. Load balancer and HDFS (Hadoop File System) name node are configured in active - passive configuration to

¹ Description: <http://en.wikipedia.org/wiki/Hadoop>

handle failure. Multiple web servers, compilation modules and HDFS nodes can handle failures gracefully.

- Usage of proximity based routines to improve performance. Useful when multiple servers are hosted in geographically separated locations. Assuming the setup at multiple locations, a router can be used to route requests to appropriate servers based on proximity information.

HIGH-LEVEL ARCHITECTURE



SYSTEM SPECIFICATION (ONLY SOFTWARE)

Some of the open source software's/concepts that we have used for developing demo project are:

- PHP (Web Development Language)
- Turbo C (for C compilers)
- Vim (C compiler for Linux)
- Cygwin (for installing Linux binaries on Windows OS)
- XAMPP (it includes MySQL, APACHE, PHP 5)

- JavaScript
- AJAX/SJAX
- Hadoop
- PEN Load Balancer

SOURCE CODE (FOR DEMO WEBSITE)



Please copy and paste above embedded object onto your desktop and then open it. Contained inside are .php files, html files and other related files. Steps to install this setup are complicated and require web development experience; hence we have not provided the instructions.

MARKET RESEARCH

We have used secondary research methodology to understand the market and its size for our business idea. Most of the secondary research was based on online data and search to identify if an idea like this exists or not. Along with this, personal experience of our friends helped us to realize the market need gap this business solution of ours can fill.

MARKET SIZE

As described under business model segment, target market for compilation and execution of programs online is huge, if only the product is developed and marketed well. Typically the markets will be schools, educational institutions, IT companies for recruitment, and computer professionals across the world working on open source technologies who wants to collaborate. In short our target market is almost anyone who has got to do anything with open source language coding. To practically illustrate the market size we would just cover India.

STUDENTS

Approximately 5-6 lacs engineers pass out from Indian engineering colleges, and first year engineering of any branch has a course (mostly C/C++) related to computers. This means every year there are 5-6 lacs engineering candidates going through the grind of trying to learn computer programming.

Then we have number of students passing out from other 3 yr under-graduate programs like B.Sc Computers, B.Sc IT and many others. Given the opportunity provided by India IT industry, a large part of 3 year under-graduate course students at some point or the other takes a course in computers (as institutes like NIIT, Aptech etc.) with the hope of getting job in IT industry. This number on conservative estimate can be safely assumed to be around 5-10 lacs.

In addition to this number of 12th standard students passing out of various central and state boards in India. Almost all urban & semi-urban schools in India now have a C/C++ course in 11th & 12th standard. According to this year statistics close to 5 lac students wrote CBSE exam². Each state has its own board apart from CBSE and ICSE. Assuming 5 state boards together is equal to the size of CBSE; total number of boards can therefore be assumed to be approximately 6. Therefore number of students each yr in 12th standard is close to $5 \times 6 = 30$ lacs (just in 12th standard)

If we add all the 3 category of students then per year it roughly comes around 45 lacs (5+10+30). Assuming 30% students to be science oriented and hence going through some computer course, i.e. 13.5 lacs (30% of 45 lacs) students each year goes through C and other computer related courses each year.

² Source: http://indiaedunews.net/Today/8%2C252_score_over_90_percent_in_CBSE_Class_12_exams_4318/print.asp

Every year we can safely assume that approximately 10 lac new students are added into our target size. We therefore safely assume that currently close to 20-25 lac students are there would be benefiting from our service. And every year there would be significant addition to our target market.

IT COMPANIES

India is flooded with big, medium and small IT companies. Let's take the case of Infosys, which hires close to 15,000-20,000 candidates per year. Out of this 15,000-20,000 we can assume 4000 candidates of experience 1-4 yrs to be recruited. Assuming they test 3 candidates per requirement, we can assume that approximately 10,000 people are tested by interviewing them either over phone or in person.

Using this statistics for top 5 Indian IT companies, we get figure of 50,000. There are many other companies like Siemens, Adobe, and Microsoft apart from many other medium & small IT companies who recruit candidates. Using guesstimate principle we can assume the overall number to be approximately 70,000-75,000, i.e. these many candidates go through selection procedure for software coding job.

Thus our target size in terms of IT candidates for interview is close to 70,000-75,000 per year.

IT DEVELOPERS

This segment is tough to estimate as it overlaps with students and working IT professionals.

COMPETITION & GROWTH

The idea was conceived in January 2008, and at that point of time very few sites (like <http://compilr.com/>, www.codepad.org) existed on the same concept of online compilation and as of now few them have become close to inactive and certainly none of them caters to any business model that we are planning.

As far as our research and knowledge suggests, we haven't come across any website or business solution offering the kind of services we want to. This business solution of ours

can come under the category of online education with respect to student user category and can compete with companies like MeritTrac (www.merittrac.com) who conducts assessment test for various IT companies for their off-line recruitment service.

But in both the cases our model sticks to a very niche segment related to software coding and the ease in use of compilers (without bothering about OS, compiler versions etc.) for executing programs. Also with respect to competition from assessment companies, our business model for IT companies try to target experienced professionals (of experience range 1-4 yrs), whereas MeritTrac service is utilized more for mass recruitment of fresher's.

Also we can introduce modules on learning various languages (like C, C++, and Java) in very simple way. It is true that there is plethora of materials available online, but lot of surveys on quality of engineering graduates clearly hint that not more than 10%-15% of Indian students is of employable level unless trained.

Though this is not an indication that quality of reading materials available are not good, but clearly points out the necessity of materials which are easier to grasp. At the same time presence of compiler side by side will let students execute their programs snippets immediately, thus helping them to learn concepts on the run (which currently doesn't happen).

Slowly various other software's applications can be developed which will be provided through this website, namely in the field of mobile application, e-learning etc, which will help us to position as a complete IT start-up, from where on the growth is endless.

MARKETING PLAN

We will use viral-on, online advertisements, exclusive advertisements and off-line channels for promotion of our product for 1-2 years, after which we will re-structure the marketing budget according to the utility it actually generates for the users and will depend on heavy word-of-mouth publicity and recommendation of its users.

ONLINE ADVERTISEMENTS

Our experience with Google adwords gives us a unique advantage as a team. Because our product is unique and doesn't have competitors, the per impression cost and per click cost that we need to pay Google would be very less (based on the effective Google marketing concept material available on their website).

As a part of live project during 1st yr MBA, we were able to generate 11 lac impressions and more than 500 web clicks on spending \$200 for a website company (www.radoninfotech.com) which operates in a very competitive space of website building & designing. Hence we believe that, with a budget of Rs 5 Lacs we will be able to generate quite a buzz in the online community and pull users towards our website.

VIRAL MARKETING

To effectively capture viral marketing as a technique, we will implement the feature where-in a user while registering can choose to forward the link of our website (optional) to their friends.

At the same time during the course of using the website, if a user finds the service effectively, he/she can forward the link to their friends or share it on their social networking profiles (like FaceBook, dig etc.). On doing this they will get access to certain enhanced features which would otherwise be available to paid users. This process of incentivizing general users will make sure that our service is propagated well online and we effectively tap the viral-marketing phenomenon. This marketing method will not cost us any amount.

EXCLUSIVE TIE-UPS (WHITE-LABEL PARTNERSHIPS)

We will tie-up with related businesses (like www.novatium.com) to which we can add value. Subsequently we can promote each other through print medium and online presence. This will not cost us any amount.

ONLINE REGISTRATIONS

Web is currently flooded with websites who keep track of upcoming start-ups (like www.killerstartups.com, www.yourstory.in, www.hotindianstartups.com, www.startupdunia.com, www.indianwebstartups.com). We have to make sure that we are registered in all such websites such that start-up community knows about our existence.

OFF-LINE CHANNELS

CONDUCT CODING CONTESTS

Initially for a year we will tie-up with engineering colleges and conduct coding contests and give away prize money for the winners at national level. This would give us a one-time visibility across engineering and under-graduation colleges. Even if few students get hooked and buy our idea and service, then they will act as product ambassador in their colleges and circle of friends. Also today's young crowd is into social networking phenomenon like FaceBook, Orkut and MySpace, if some of these students like our website, then they will out of their own interest promote our service by posting news, links about website and unique service on their profiles.

We will also track students to identify college and students who are using our website. We will then approach those colleges with our packaged software and try and convince them of the utility of our business solution.

So we can keep a budget of overall Rs 2 lacs, which will include prize money and other event related costs.

ENTREPRENEURIAL SUMMITS/EVENTS

India is a hot destination for many entrepreneurship related events (like www.proto.in, www.enterprising.in). We will make sure that we represent "Online Compiler" at each such event and make our presence felt. These events will serve as a great platform to get our product noticed, and if there is any utility that people will find in it, and then opportunities will open up in terms of tie-ups.

Some of these events are paid and some of them free. Hence we can allocate a budget of Rs 2 Lacs (for participation, travelling and other allowances).

We can also represent ourselves globally by participating in global events like Seedcamp (London), start-up pinch (Singapore) etc. But right now our focus remains only on India and hence we are not allocating any budget for international events.

SPONSORSHIP

We can try and sponsor technology related events across India or entrepreneurship related events like the ones that are held at Indian MBA Schools and try and be visible to the technology & management community. Although there is right way to asses but we can keep a budget of Rs 1.5 Lacs for this.

B2B MARKETING

To get IT companies as a client with respect to online test recruitment service, we will have to follow the B2B route of giving presentations; demos's to IT companies and successfully convince them of the utility they can achieve and the amount of cost they can save per year.

We would need one (or two) full-time marketing employee who along with product manager will do the job of acquiring IT client. A good sales and marketing personnel can cost us something like Rs 8 Lacs.

FINANCIALS

Web based business solution typically incurs operational costs (like employee salaries, office cost, infrastructure (server) cost, internet connection cost) and marketing cost (for various offline and online promotions).

OPERATIONAL COST

We plan to launch the product in 3 phases (1st Phase- 6 months, 2nd Phase- 9 months, and 3rd Phase- 12 months). Below is the snapshot of the features (services) that will be made online as per phases-

COST INCURRED (1ST YEAR)

Employee Cost

Designation	No. of Employees	Cost/Hr (\$)	Cost/Day (\$) (Approx. 8 working hrs)	Cost/Mon (\$)	Cost/Yr (\$) (Approx.)
Technical Architect	1	15	120	2400	28,000
Product Manager	1	12	96	2000	24,000
Developers	3	8 (x3)	64 (x3)	1400 (x3)	17,000 (x3 = 51,000)
UI/Designer	1	10	80	1600	20,000

Total Employee Salary Cost = \$ 123,000

= Rs 60, 00, 000 (@ 1\$= Rs 50) [Rounded off figure]

Office Cost

Space of 1000 sq. ft. – Rs 20,000/month approx. (including electricity, and other related charges)

Total/yr = Rs 2, 40,000

Infrastructure Cost

3 High End Servers (each could cost Rs 1, 30,000) = Rs 4, 00,000

Sample Specification (Dell PowerEdge T100 Tower Server)

Component	Specifications
Processor	Intel Core 2 Duo Intel Processors 7000 sequence
Chipset	Intel 3200
Memory	Upto 8GB of DDR2 SDRAM
Hard Drives	<ul style="list-style-type: none">• 3.5 inch SAS (10K rpm): 400GB)• 3.5 inch SAS (15K rpm): 73GB, 146GB and 300GB• 3.5 inch SATA (7.2K rpm): 160GB, 250GB, 500GB, 750GB and 1TB Maximum Internal Storage: <ul style="list-style-type: none">• 800GB (2 x 400GB) SAS• 2TB (2 x 1TB) SATA
Slots	<ul style="list-style-type: none">• One x8 slots, full height, half length• One x4 slot, with x8 connector, full height, half length• One x1 slots, full height, half length• Once x32/33 PCI full height, half length
	<ul style="list-style-type: none">• Embedded Broadcom[®] NetXtreme II[™] 5722 Gigabit Ethernet NICs (non TOE support)

Network	<ul style="list-style-type: none"> Intel 10GbE 1 port PCIe x8 Base-T
Power	Single Power Supply 305 Watts

6 Desktops or Laptops (each could cost Rs 50,000) = Rs 3, 00,000

Internet Connection Cost

1st connection (1 MBPS) – Rs 90,000 /Yr (from BSNL Website)

2nd Back-Up Connection (256 KBPS) - Rs 30,000 /yr

Total = Rs 1, 20,000

Total Operational Cost (for 1st Yr)

Cost Type	Cost / Yr
Employee (Development) Cost	Rs 60 Lacs
Office Cost	Rs 2.4 Lacs
Infrastructure Cost	Rs 7 Lacs
Internet Cost	Rs 1.2 Lacs
Total	Rs 70 Lacs (Approx.)

COST INCURRED (FROM 2ND YEAR ONWARDS)

Cost Type	Cost / Yr
Employee (Development) Cost	Rs 80 Lacs (3-4 more developers)
Office Cost	Rs 3 Lacs
Infrastructure Cost	Rs 14 Lacs (More servers to handle capacity)
Internet Cost	Rs 2.4 Lacs (To handle capacity, need more lines)
Total	Rs 100+ Lacs (Approx.)

MARKETING COST

Marketing for this business solution will be started in the 2nd half of 1st year, as 1st 6 months only development activity will take place. Once the website beta version is released, then marketing will start from 2nd half of 1st yr and will be vigorous from 2nd yr.

COST INCURRED (1ST YEAR)

Cost Type	1 st Year (Post 1 st Phase Development)
Online Advertisements	Rs 3 Lacs (for 6 months)
Coding Contests	Rs 2 Lacs
Entrepreneurship Event Participation	Rs 1 Lacs
Sponsoring Events	Rs 1.5 Lacs
B2B Marketing	Rs 4 Lacs
Total	Rs 12 (Lacs Rounded Figure)

COST INCURRED (FROM 2ND YEAR ONWARDS)

Cost Type	2 nd Year
Online Advertisements	Rs 5+ Lacs (Inc. in advertisement Budget)
Coding Contests	Rs 2 Lacs
Entrepreneurship Event Participation	Rs 2 Lacs
Sponsoring Events	Rs 1.5 Lacs
B2B Marketing	Rs 8 Lacs
Total	Rs 18 Lacs (Rounded off)

REVENUE SOURCES

Web is a unique space with a questionable revenue model. Some of the existing revenue models that exist are:

- 1) Online advertisement (through Google Ad-sense, Yahoo Ads etc.)
- 2) Specific placement of advertisement (through direct deal)
- 3) User Charge in case of any specific service (like in case of matrimonial sites)

Various revenue sources for us are:

ONLINE ADVERTISEMENT

One of the primary objectives of this website will be to create massive user-base. Given our projection of 3 million target size, which in real could be 6 million across India, and could reach size of around 10 million globally, our aim, would be to reach as many users as possible and get them hooked onto our website.

According to a article³, an Indian website www.way2sms.com whose primary source of revenue is online advertisements, with 5 million user base has revenues worth Rs 5 crores (Rs 50 million). We could therefore extrapolate this figure to our website and can say that from 2nd yr onwards we can have online advertisements revenue grow from Rs 1 crore to Rs 5 crore in 3-4 yrs.

RECRUITMENT TEST SERVICE

As we explained in product service, one of our premium services will be to allow India IT companies test potential candidates for recruitment. Currently the process that is followed is that the company outsources the job of CV processing to a 3rd party, which costs them a significant amount. These 3rd parties then verify CV and forwards it to the respective companies based on the criteria specified. The company then calls all the selected candidates for a paper-pen test at their campus. Candidates are then filtered based on the test results and are invited for subsequent round of interview.

The amount of time and energy that is wasted in this entire process would be worth lacs of rupees. And all this effort is to find a candidate with good coding skill. This is where our service will greatly help IT companies to reduce their recruitment cost. Using our service, IT Company can straight away check the coding skill of a potential candidate at first step. Assuming that the amount saved per candidate is Rs 300, and given our target size of 25,000 candidates (assuming only 33% of 75,000 are being recruited for open source language programming like C, C++), the potential revenue can be equal to Rs 75 lacs.

PACKAGED SOFTWARE

As explained before, we can package the entire application as software which can be installed in one server in schools and colleges. All other computers can then access the server and connect to it through web browser. On logging into their respective profiles, students will be provided with a common interface development environment (IDE), storage space to save their programs and files.

³ Source: <http://business.rediff.com/report/2009/aug/03/v-v-rajju-smsing-his-way-to-glory.htm>

It is tough to estimate the potential market right now, but given the large number of private schools and colleges we have in urban areas, and the success of software companies in education space like Educomp, we can safely assume that this market if served well will have big potential. Over a period of time let's say 3-4 years, this segment could generate potential revenues of 3-4 Crores (=300-400 Lacs).

CONDUCTING CONTEST/ COMPETITIONS

Over a period of time, once the website is well positioned in the market then we can allow 3rd parties to use our service to conduct various competitions and subsequently charge them on per user basis. What initially was our marketing plan of conducting coding contests across colleges can later be reversed. Once we are famous, we can then charge colleges to get their coding events done through us.

Given the significant number of colleges running in India, the revenue from this segment will become significant over time.

LEASING COMPUTATIONAL POWER

As explained in the previous section, this is an interesting space for us to build another revenue model. We will charge user for executing their programs on our servers. People who do not have access to high computing power, can access our computational power online and execute their code. Depending on the CPU usage, we can bill the user. Currently it is tough to estimate the revenue from this business model.

ESTIMATED REVENUES

Source	Year 1	Year 2	Year 3	Year 4
Online Advertisement	0	Rs 50 Lacs	Rs 100 Lacs	Rs 200 Lacs
Recruitment Service	0	Rs 10 Lacs	Rs 30 Lacs	Rs 50 Lacs

Others	0	Unknown	Unknown (min. 50 Lacs)	Unknown (min 50 Lacs)
Total	0	Rs 60 + Lacs	Rs 180 Lacs	Rs 300 Lacs

PROFITS				
Type	Year 1	Year 2	Year 3	Year 4 (Break-even period)
Revenues	0	Rs 60+ lacs	Rs 180+ Lacs	Rs 300 Lacs
Operational Cost	Rs 70 Lacs	Rs 100 lacs	Rs 100 Lacs	Rs 100 Lacs
Marketing Cost	Rs 12 Lacs	Rs 18 lacs	Rs 18 Lacs	Rs 18 Lacs
Profit	- Rs 82 Lacs	- Rs 58 Lacs (Approx.)	Rs 62+ lacs	Rs 172+ Lacs

Here we can see that possible break-even period is year 4. However we might be able to break-even in year 3 on account of efficient product development, proper marketing and low-cost over-runs (due to less change in product specifications).

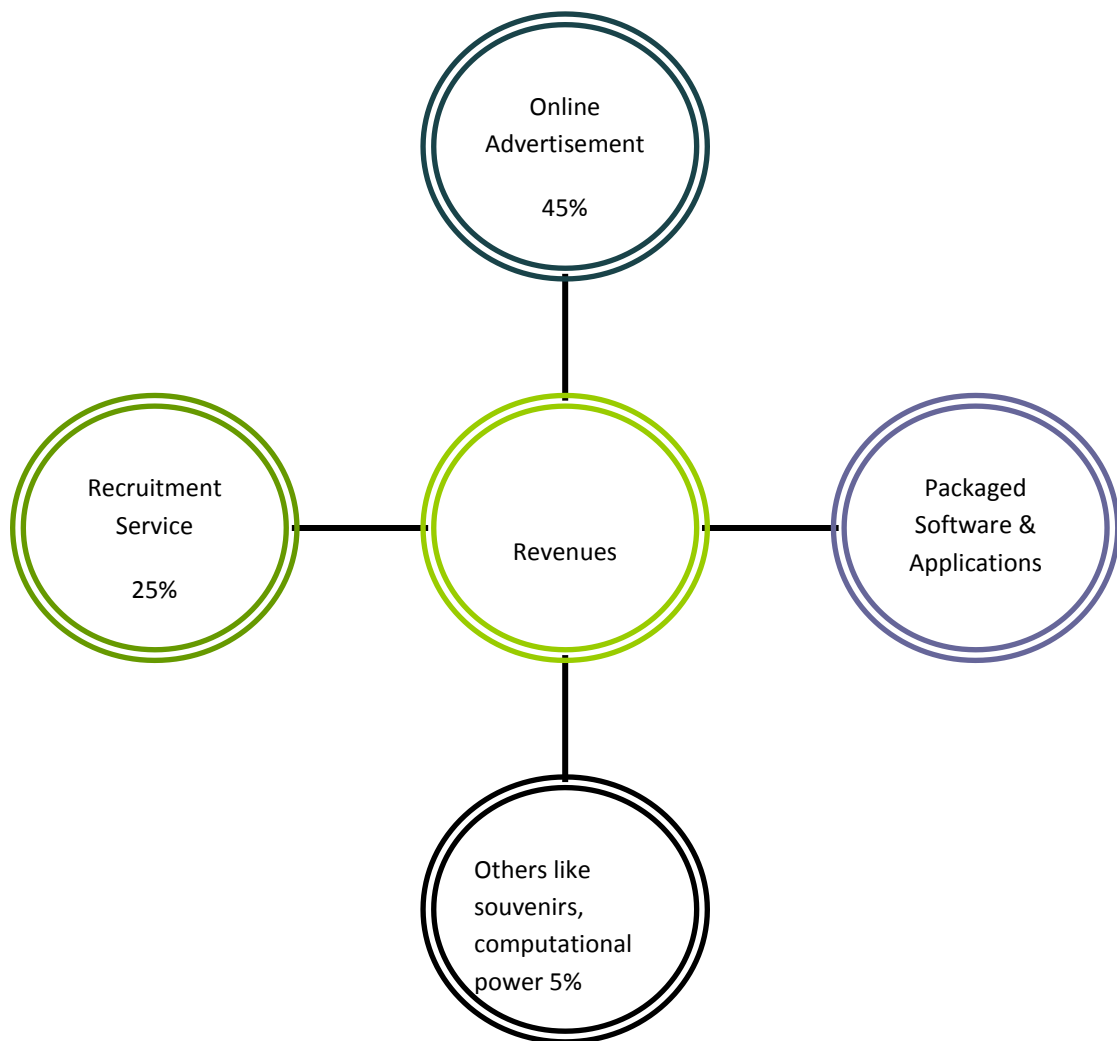
#Note: The above numbers are arrived based on summer internship experience at start-up (www.sapnasolutions.com, Pune) where a development project was bid. The methodology that we adopted there (and here) was that we broke the entire website product into features and estimated man-hours required to build each feature. Based on the total man-hours and estimated development rate of per developer, we can up with total number of developers required, time line to complete different phases and the over-all development cost.

FUNDING

We have intellectual capital to provide. Apart from this we can invest close to Rs. 15 lacs to kick-start the development work, but after which we will require cash infusion to cover the remaining operational and marketing cost for first 2 years.

We are therefore looking at seed-funding from angel investors or venture capitalists. We haven't identified the exact financial structure and partnership model, but would like to involve all the important and key-stake holders of this project in the best interest possible.

Snap-Shot of Revenue Streams



OPERATIONAL PLAN

TEAM

Name	Year	College	Role
Rajiv Kumaar	2 nd yr, MBA	IIM Kozhikode	Development, Management
Devendra Ayasomayajula	2 nd yr, MS	University of Texas-Dallas, US	Development
Vaibhav Rao	2 nd yr, MBA	IIM Kozhikode	Management/Marketing
Nikhil Jain	2 nd yr, MBA	IIM Kozhikode	Management/Marketing

Subsequently we need one highly experienced person from the field of web applications who can take the role of technical architect to shape the product further and bring in rich experience. We also need a product manager with good understanding of web space and who can assess the market demand and therefore assist the development team in getting the right product and on time.

Apart from this we need one experience designer who understands Web 2.0 concept and 2 experienced developers. To further stamp our position and revolutionize the world of coding and computational power, we need to make sure that the look and feel of the entire website is right. To capture the student community and create a large base of users, the user experience will play an important role. Hence we need to make sure that anyone who comes on website for the first time easily understands how to operate, write and execute programs.

LOCATION

Given that the 1st year effort is purely into development work and some marketing, it would make sense to setup our base in a 2-tier city like Pune, Nagpur, Gurgaon or Mysore. The

operational cost at these locations would be comparatively low compared to top cities like Mumbai, Bangalore, New Delhi and Chennai.

CURRENT STATUS

A demo pilot website has already been created with sufficient (but not all) functionalities such that users can write, compile and store programs online. At the same time we have effectively implemented the functionality for online recruitment test (though security is an issue which still has to be addressed). But because of lack of support and guidance in terms of product development, this project is currently on halt. Some of the screen-shots of the working demo can be seen in appendix.

At the same time internet has evolved over the period of one and half years (since March '08). At that point of time when demo version was being built, the team faced many problems (also due to lack of development knowledge) because of which certain features and concepts looks tough to implement or would have taken considerable amount of time. But today internet has become very rich and we have multiple options to choose from. Some of the new features that can help improve and develop the product fast are The Yahoo! User Interface (YUI) Library, Google API's, Google AJAX API's etc.

BARRIERS TO ENTRY

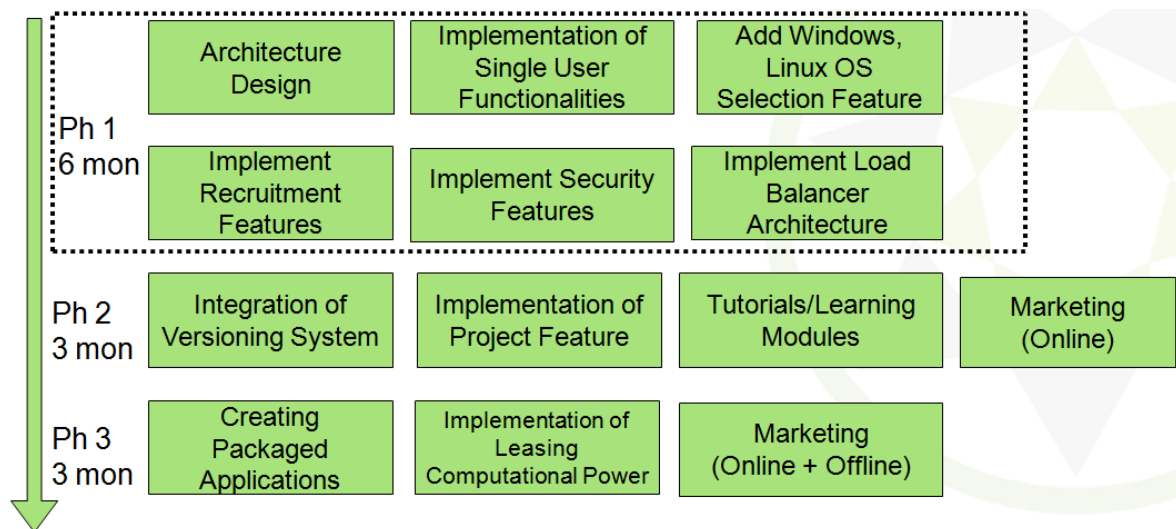
Any idea can be copied and reproduced, but sometimes advantage with a technology related business solution is that one has to understand and develop a sound underlying architecture. First mover advantage too certainly plays a big role and sometimes act as deterrent. Unless the competitor comes up with different and efficient way of providing the same service, the one who has come first always holds the advantage. Another observed phenomenon is that lot of times established players in technology industry initially do not realize the potential of an upcoming technology or service (for e.g. Microsoft initially did not realize the threat Google poses to them and how big web can be) and this gives ample time for one to establish themselves.

Given the fact that we have already built demo site and have come up with initial architecture, we certainly hold advantage. So by the time we release our Beta version, it will take any other player to realize the potential of our service and decode the architecture and business model for them to become immediate threat to us.

TIME TO MARKET

The demo website was built by 2 part-time developers (Rajiv Kumaar & Devendra Ayasomayajula) over a period of 3 months (from January '08- March '08). Because an initial base is ready, we estimate that another 6 months would be required to launch Beta version. We certainly believe that if given an experienced team at job, in 6 months we can shape the product in right direction, and within one year we can launch a complete version with all the features to support our business models.

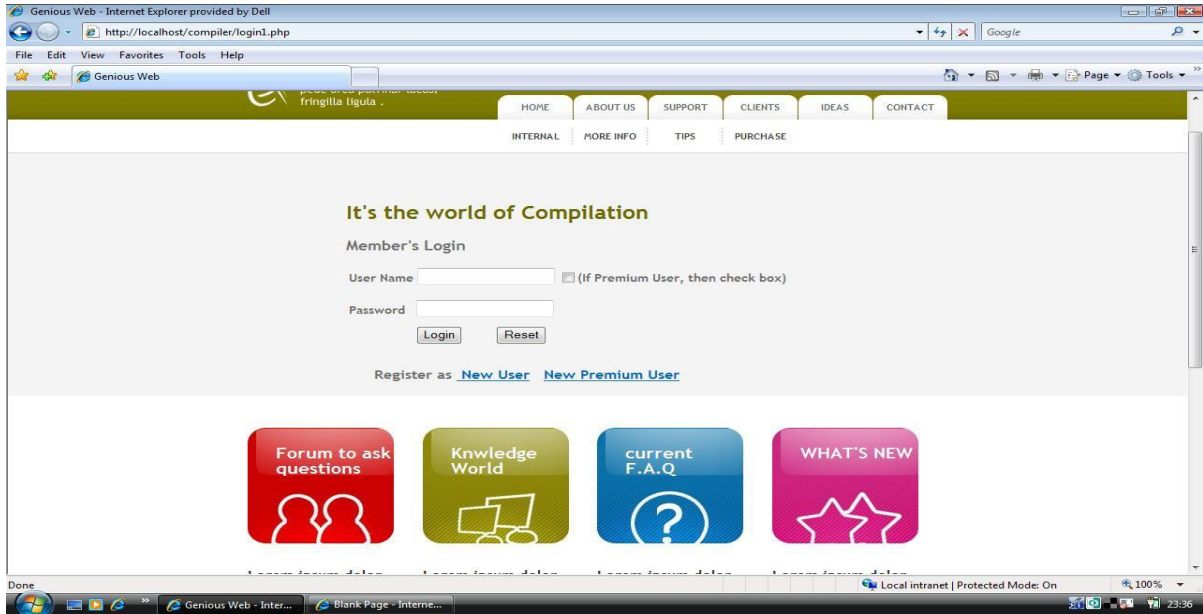
HIGH LEVEL SCOPING (IN TERMS OF PHASE-WISE DEVELOPMENT)



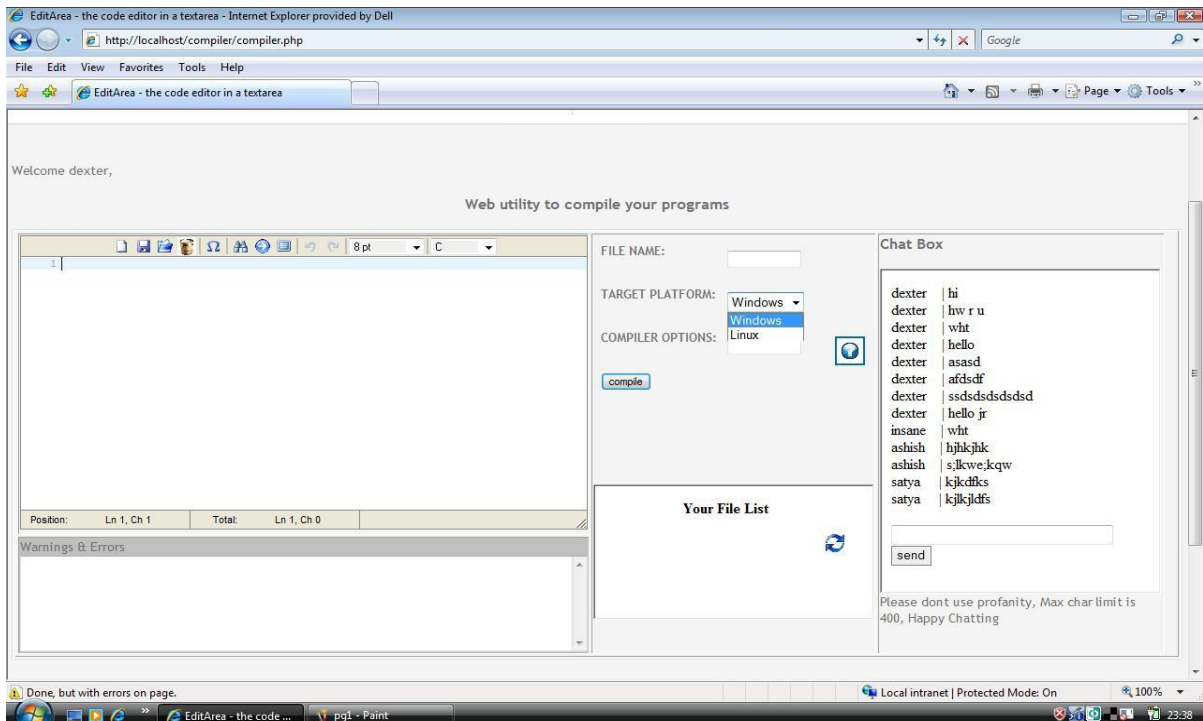
APPENDIX

WORKING DEMO WEB SITE LOOK AND FEEL

Login Screen



Normal User IDE



On Successful Compilation of Programs (EXE File is generated)

FILE NAME:

TARGET PLATFORM:

COMPILER OPTIONS:

Chat Box

dexter | hi
dexter | hw r u
dexter | wht
dexter | hello
dexter | asasd
dexter | afdsdf
dexter | sdsdsdsdsdsd
dexter | hello jr
dev | hie

Your File List

1. hello.c
2. yahoo10.c

Warnings & Errors

Turbo Link. Version 5.0 Copyright (c) 1993
Available memory 4116368

Opening hello.exe

You have chosen to open

hello.exe
which is a: Binary File
from: http://localhost

Would you like to save this file?

download.exe

Enter File Name

Please dont use profanity, Max char limit is 400, Happy Chatting

Registration for IT Companies (Recruitment Test Business Model)

http://localhost/compiler/compiler/adduser1.php

Member Register

Welcome to the world of compilation

Premium User Register

Username :

Password :

Passkey :

Job Candidate Login Page (To Take Test)



ajarbaijan

[logout](#)

Login Register Delete

UserName:

Password:

In Time:

Out Time:

Exam Time:

Select a Time				A.M.	P.M.	X
12:00pm	12:15pm	12:30pm	12:45pm			
1:00pm	1:15pm	1:30pm	1:45pm			
2:00pm	2:15pm	2:30pm	2:45pm			
3:00pm	3:15pm	3:30pm	3:45pm			
4:00pm	4:15pm	4:30pm	4:45pm			
5:00pm	5:15pm	5:30pm	5:45pm			
6:00pm	6:15pm	6:30pm	6:45pm			
7:00pm	7:15pm	7:30pm	7:45pm			
8:00pm	8:15pm	8:30pm	8:45pm			
9:00pm	9:15pm	9:30pm	9:45pm			
10:00pm	10:15pm	10:30pm	10:45pm			
11:00pm	11:15pm	11:30pm	11:45pm			

Job Candidate Test Launch Page



Job Candidate's Test Window (Automatic Logout on Time Over)

http://localhost/compiler/compiler/compiler3.php

Welcome info,devendra

Time Left

Web utility to compile your programs

0:51:22 Logout

```
1 #include<stdio.h>
2 int main()
3 {
4   char *st;
5   st=(char *)malloc(4*sizeof(char)); // memory not allocated
6   strcpy(st,"abc");
7   return 0;
8 }
9
```

FILE NAME: test1.c

TARGET PLATFORM: Windows

COMPILER OPTIONS:

compile

Your File List

1. test1.c

Warnings & Errors

Turbo C++ Version 3.00 Copyright (c) 1992 Borland International

c:\premdir\info\devendra\tmp1\test1.c:

Turbo Link Version 5.0 Copyright (c) 1992 Borland International

[download exe](#)

Link to download generated EXE file

Opening test1.exe

You have chosen to open

test1.exe

which is a: Binary File

from: http://localhost

Would you like to save this file?

Save File Cancel

Done