LCH Systems, Inc.
Clyde, Ohio

Business Plan
January 2008

NOTE: This is a sample business plan designed to *provide guidance* to students in BUS 351 – The Crucible. It is intended neither as a complete model of a plan nor as a perfect business plan template. For The Crucible, some additional details may be warranted, or some of the discussion included here may not be relevant. Students should study this sample in light of the classroom discussion of business plans, the specific requirements of their Crucible business, and the assignment guidelines.

Real business plans vary in organization, content and quality. In addition, business school texts and professors often have specific variations on business plans that they prefer to emphasize or promote.

EXECUTIVE SUMMARY

The Business:

Product – A unique combination of existing technology, plus critical new technology for which we hold patents, "Lassie Come Home" is a classroom system that allows teachers and professors to retrieve markers and erasers with a simple command. It offers two main benefits for teachers and professors:

- It frees up teaching time to help students learn more.
- It eliminates "old professor befuddlement," long a cause of embarrassment in front of young college students.

LCH Systems will manufacture "Lassie Come Home," as well as sell the product through its own sales division.

Market – According to US Census Bureau statistics, there are 4,216 institutions of higher learning in the US, and this is where we intend to focus our initial sales and marketing efforts. Within three years, we plan to have "Lassie Come Home" systems in 10% of these institutions, with an average 50 classroom systems per institution. This leads to projected per unit sales of just over 21,700 within three years.

Management Team – Headquartered in Clyde, Ohio, LCH Systems consists of three executives who have been the primary drivers of the idea and product development:

- *Marco Polo*: A former technology developer for the Chinese firm, Baidu.
- *Constance Willingham*: A Harvard MBA with experience in start up financing.
- *Goober Newton*: A sales guy who plays golf.

Key Three-Year Objectives:

1. Place "Lassie Come Home" systems in 10% of colleges and universities.
2. Obtain an average of 50 classroom systems per institution.
3. Achieve net income margin of 15%.
4. Obtain for initial investors a 25% annual return on investment by end of year 3.

Key Elements Influencing Success:

1. While we will be first to market, with technology that is proprietary and well protected, we will also need to constantly scan for potential competitors.
2. Manufacturing and service quality are crucial: The new technology must work without exception from the start.
3. Marketing and sales efforts must be built around a well-crafted story; this new technology requires education of potential customers.

Capital Requirements:

The details that follow require an investment from venture capitalists of $2 million. This supports an expansion of sales and marketing efforts, development and implementation of the "Bark Alert" feature, and planned expansion to manufacturing and quality control systems.

COMPANY SUMMARY

Ownership:

LCH Systems is 100% owned by its three primary executives. Each has invested approximately $250,000 from various sources to fuel product development and a test market. Total capital to date is $750,000.

History:

The firm has formally existed for just one year, though R&D and product development has been ongoing more informally for nearly three years. The three primary executives met at lounge during layovers at O'Hare in 2005. During what has become known as the "Moosehead discussions" the three discovered they shared common interests that made the initial steps in formalizing LCH Systems possible:

- A lack of interest in the Bears since Ditka and McMahon.
- Clueless-ness at the existence of White Sox fans.
- Sympathy for their college professors who often needed to cross from one side of the room to the other to retrieve a dry eraser or red marker.

Marco Polo explained his idea for a technology system that would allow an object, such as a dry eraser, to quickly "float" to the hands of anyone giving the appropriate command. "Just like calling Lassie home," he had said. Thus, the idea for "Lassie Come Home" classroom systems was on the table. Product development began three days later. The firm was established as LCH Systems on November 19, 2006.

Manufacturing began in July 2007, followed by a test market during September and October of the same year. The test market revealed that product quality levels were generally high, but that sales strategies needed adjustment. It was discovered that few college professors or administrators played golf during weekdays in the fall.

Current Operations:

- Clyde, Ohio manufacturing facility with a current quarterly capacity of 2,700 units (10,800 per year).
- Clyde, Ohio administrative, research, engineering, and marketing offices consisting of 8 full time employees.
- Sales offices in Chicago, Boston, and Collegeville, IN employing 10 full time sales representatives.

Mission:

LCH Systems designs, manufacturers and sells unique, high quality "come home" technology in order to make professors' classroom lives a little easier and less befuddled.

Management Team:

The three founding executives bring to the firm critical expertise and experience required for successful implementation of the business plan:

Marco Polo
President and CEO

With 10-years of experiencing managing technical engineers in China, Marco Polo was most recently at Baidu and helped lead the programming effort for the Chinese search engine. He has an MS in computer science from Hong Kong University of Science and Technology.

Constance Willingham
Vice President of Finance and Performance Measures

Constance received her MBA from Harvard and worked for five years in progressively more challenging positions in finance and data management at Google.

Goober Newton
Vice President of Marketing and Sales

Goober brings 12 years of experience in sales and sales management to LCH Systems. More important, much of his sales experience was in contracting for various beverage services at colleges and universities. Thus, our initial marketing efforts will rely on leveraging Goober's established connections.

Management Strengths and Weaknesses:

Strengths:

- Relevant experience.
- Complementary functional areas.
- Personal capital invested in the plan.
- Determination to turn vision in to reality.

Weaknesses:

- No specific experience with startup operations.
- First collaborative business effort.
- Uncertainty regarding what Goober is going to do.

Next Steps:

Given a successful initial product development and test market, LCH Systems now is poised to expand production and marketing efforts to support a national rollout of "Lassie Come Home". Thus, the firm requires a $2 million capital investment, as well as managerial guidance, from venture capitalists.

Specific uses and amounts of venture capital are included in the "Financial Analysis and Planning" section.

PRODUCT EXPLANATION AND DETAILS

Lassie Come Home Basics:

"Lassie Come Home is a combined hardware and software solution to the problem of teachers and professors needing instant access to an eraser or marker that is on the other side of the room. Upon command (such as "Come, eraser!"), the eraser will fly to the professor's hands within 1.5 seconds. Proprietary sensor technology enables the erasers to initially fly at very fast speeds and then slow to a safe "landing" as it approaches a professor's hand.

The system includes specially designed erasers and markers with embedded chips and Bluetooth communications. Professors use a PC or Mac, with software downloaded from LCH Systems, to program commands into the erasers or markers. Such commands are voice printed, so that students in the classroom are unable to take control of any LCH objects. The programming operation usually takes less than five minutes per object and requires nothing more than a modern Internet browser (which means Internet Explorer will not work).

Both software and key hardware components are proprietary.

Overall Value and Benefits:

Our early research, studying professors in accounting and economics classes in a small Midwestern liberal arts college, suggest that an average of 2.7 minutes of class time was consumed during an average 22 fetches of erasers or markers that were not immediately available to the professor. The observations and analysis are summarized in Table 1.0:

TABLE 1.0
Results of Fetch Observations

Average fetches per class:	22.4
Standard deviation:	3.2
Average distance of fetch:	7.5 feet
Average time per fetch:	7.1 seconds
Standard deviation:	1.7 seconds
Longest time:	45.4 seconds
Shortest time:	2.2 seconds
Average fetch time per class:	2.7 minutes

Though the average time spent fetching is small in absolute terms, it is not trivial in terms of percent of class time devoted to learning, as Table 2.0 illustrates:

TABLE 2.0
Class Time Usage

	Average Minutes
Typical class time as scheduled:	50.0
Professor late arrival:	6.3
Initial socialization, professor with students:	4.7
Professor uncertainty about what to say:	3.1
Professor story-telling, unrelated to subject:	8.0
Restatements of something said wrong:	2.8
Fussing with classroom technology:	10.5
Explanations for why grading is late:	3.0
Announcement of changes to poorly planned syllabus:	5.6
Time remaining for new learning:	6.0
Average time spent fetching erasers:	2.7
Fetch time percent of learning time:	45%

That fetch time is also very expensive. When analyzed relative to private and public tuition expenditures, it is clear that any product that can help eliminate some of this fetch time will also be highly valued, as Table 3.0 illustrates:

TABLE 3.0
Value of Fetch and Fetch Reduction

Fetch time as percent of learning time:	45%
Average tuition at public institutions:	$8,500 per year
Value of lost learning due to fetching:	$3,825 per year
Average tuition at private institutions:	$21,800 per year
Value of lost learning due to fetching:	$9,810 per year

Since our Lassie Come Home systems reduce fetch time to just 1.5 seconds, we effectively reduce lost learning to just 25% of learning time from 45%. That is a savings of $1,700 for public institutions and $4,360 at private institutions.

MARKET ANALYSIS AND MARKETING STRATEGIES

Market Segmentation

The broader market for LCH Systems applications in erasers and markers consists of the following segments of organizations:

- Corporate
- Non-profit
- Government
- Education
- Home

Both corporate and non-profit are lucrative segments, but ones we believe will take more time and much greater investment to penetrate with a new technology. These segments are best targeted once we have proven successful in education. Government organizations are boring. And the home market, consisting of type-A parents who insist on using white boards to outline the day's schedule for their kids, is too small to justify the investment.

Thus, we will focus initially on the education segment. This segment, however, can be further divided into secondary and higher education, and then public and private institutions.

Secondary Education

Budgets are very constrained in this segment. In addition, since the primary selling point is increasing time devoted to classroom learning, we suspect the two teachers' unions will oppose our product.

Higher Education

Our primary segment, higher education is a good initial focus of our business because:

- Our sales executive already has strong contacts in the industry.
- Our research shows the specific benefits to the college or university classroom.
- Institutions of higher education spend a larger portion of their academic budgets on learning technologies than do high schools.
- We believe the potential to save professors the embarrassment of looking around for an eraser will be a strong sales appeal.

Marketing Strategy:

Target Customers

We will sell direct to college and university professors, adopting a successful model established by textbook publishers.

Sales Strategies

There are several sales strategies used to target professors:

- Telephone calls.
- E-mail solicitations.
- Direct mail promotions.
- Campus visits.

Competition:

Direct Competition

Because of the uniqueness of this system, there are no direct competitors marketing something similar. There are alternatives, however. The most important of these are:

- Professors continuing to fetch markers and erasers manually.
- Continued reliance on publisher-provided transparencies.
- Increasing use of slide-based lectures.
- Online course delivery.

Potential Competition

The most serious potential competitor we will watch is Sanford Corporation, makers of the Expo dry erasers and markers (and owned by Newell Rubbermaid). Our success is a direct challenge to their dominance in the higher education market. They have experience, established sales networks, and boat loads of money.

In addition to Sanford, it seems smart for us to keep an eye on Apple Inc., as well. Once an eraser has been summoned to a professor's hand, after all, it is not difficult to imagine that professors would then want to place a call or listen to music. Our competitive analysts will be attentive to any development of a potential iEraser.

FINANCIAL ANALYSIS AND PLANNING

Capital Request

An initial investment of $750,000 has carried LCH Systems through development and test market. We now expect another $2 million in outside capital is needed in order to accomplish important tasks for growth. These tasks are:

- Expansion of manufacturing facilities to quarterly capacity of 6,600 units (from current capacity of 2,700 units) in order to meet expected demand. ($2.3 million over two years.)

- Expansion of sales and marketing efforts to create a national sales operation. ($2 million over two years, approximately 50% of which is for new offices and sales staff.)

- Research and development for a "Bark Alert" feature planned for implementation during the second half of Year 3 of operations. ($3.1 million over two years, approximately 60% of which is devoted to this new feature.)

This two-year expansion plan costs $7.4 million, $2 million (27%) is needed now from outside investors and $5.4 million (73%) will come from successful operations.

Key Results and Projections

ITEM	YEAR 1*	YEAR 2	YEAR 3
Unit Sales	3,900	13,000	21,500
Growth		*233%*	*65%*
Revenues	$850,000	$3,607,000	$5,208,000
Growth		*324%*	*44%*
Operating Profits	195,750	$259,500	$928,000
Operating Margin	(23%)	7.2%	17.8%
Net Profits	($195,750)	$259,500	$928,000
Net Margin	(23%)	7.2%	17.8%
Total Invested Capital (@$10/share)	$750,000	$2,750,000	$2,750,000
Total Venture Capital (@$10/share)	--	$2,000,000	$2,000,000
Venture Capital Ownership Stake	--	72.7%	72.7%
Net Profits Per Share	($2.61)	$0.94	$3.38
Return on Investment (per $10 share)	--	9.4%	33.8%

** Year 1 consists of development and test market; there was only one quarter of actual sales.*

Pro-Forma Financial Statements

Attached are pro-forma quarterly statements of income, cash flow and assets/liabilities for the two-year period.