

# HopeLab

---

A Model for Developing and Evaluating Video Games or Other **Technology-Based Solutions to Improve the Health and Quality of Life of Young People With Cancer or Other Chronic Illnesses**

Ellen LaPointe, Vice President of Strategic Initiatives

[Cyber Therapy 2006 Conference](#) June 13, 2006

---

## About HopeLab

- Non-profit founded in 2001
- Based in Palo Alto, California
- 26 full-time employees
- Expertise in research, medical science, psychology, video game technology, language translation, nutrition, communications, health policy and law, organizational development

---

HopeLab

## Our Mission

To combine rigorous research with innovative solutions to improve the health and quality of life of young people with chronic illness.

---

HopeLab

## Re-Mission™: The Idea

HopeLab was created around the idea that harnessing the power of video game technology to fully engage young people with cancer about their disease held promise.

---

HopeLab

## Our Model

- Review available research
- Consult subject-matter experts
- Consult young people with chronic illness
- Identify critical needs to be addressed
- Rationally engineer innovative solution based on information gathered
- Evaluate impact of solution through rigorous scientific research methods

---

HopeLab

## Applying Our Model: Why Cancer?

What review of research revealed about cancer in adolescents:

- Historically understudied
- Comparatively poor outcomes:
  - + adherence to medical regimens  
(responsibility/control/autonomy)
  - + critical psychological and social period  
(social acceptance/isolation)
  - + perceived invulnerability

---

HopeLab

## Applying Our Model: Why a Video Game?

A review of research about video game interventions revealed :

- Broadly appealing technology
- Easily targeted to deliver precise issues/information
- Interactivity (show vs. tell, do vs. say) can illustrate:
  - + systems-level relationships
  - + contingencies/consequences
  - + connections between behavior and health/biology
- User-adaptive
- Distributable

---

HopeLab

## Applying Our Model: Consulting Experts

Who we consulted:

- Oncologists
- Nurses
- Cell biologists
- Psychologists

How they contributed:

- Medical terminology in game accurate
- Game objectives address medically valid problems
- Game design embeds psychological concepts that relate directly to desired behaviors

---

HopeLab

## Applying Our Model: Consulting Young People

Who we consulted:

- Teens and young adults with cancer
- Teen and young adult gamers

What they told us:

- Game must be honest.
  - + Depiction of cancer and its effects should be real
  - + Purpose of cancer therapies should be made clear
  - + Depiction of treatment side effects should be frank
- Game must be edgy and fun.

HopeLab

## Engineering the Game

2002 – 2004 Collaboration with game developers

- Original design concept created with Terminal Reality
- Major development done with RealTime Associates
- Cinematic support from Treanor Brothers Animation

2004 Study version completed in October

2005 Outcomes Study

HopeLab

## Our First Product: Re-Mission™

Player's pilot a nanobot, **Roxxi**, through the bodies of fictional cancer patients to **destroy cancer cells**, defend against bacterial infections, and grapple with the often life-threatening side effects common in young people with cancer.

### 7 Cancers

ALL, AML, brain tumor, Ewing's sarcoma, Hodgkin's, NHL, osteosarcoma

### 19 Patients

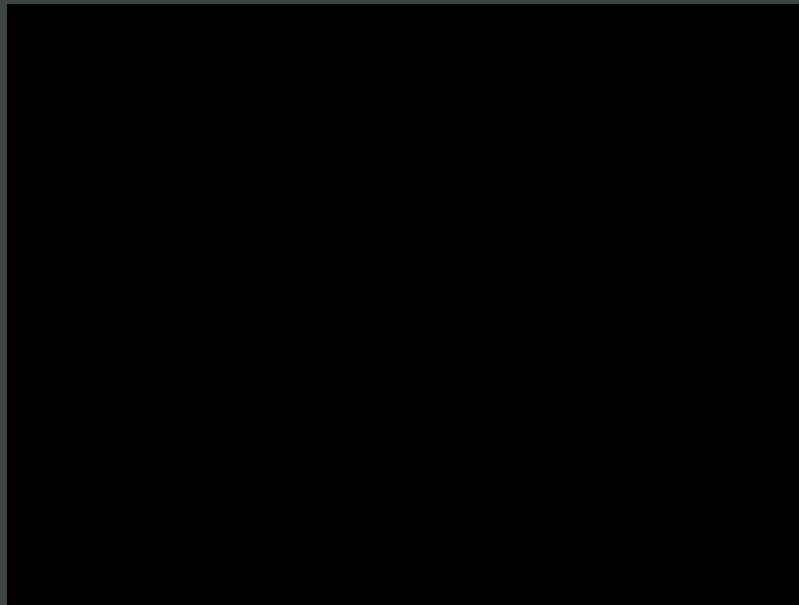
Diverse backgrounds, various disease stages and tumor sites

### 20 Levels

Control metastases, fight infections, manage pain. Bonus: experimental immunotherapy



HopeLab



HopeLab

## What We Learned

- A patient-centered, evidence-based approach to rationally engineer product design is feasible
- It's not easy
- Video games can be a powerful force for good

---

HopeLab

## And...

**Re-Mission™** works – giving teens and young adults a sense of power and control over cancer.

---

HopeLab

## What's Next for Re-Mission™

- Get the game into the hands of as many young people with cancer as possible; **available free** to young people with cancer
- Online community building: [www.re-mission.net](http://www.re-mission.net)
- Other distribution strategies
  - + Clinicians
  - + Patient support and advocacy groups

---

HopeLab

## What's Next for HopeLab

- Ongoing work in cancer through Re-Mission™
- Obesity
- Sickle-cell disease
- Autism
- Major depressive disorder

---

HopeLab



**Acknowledgments:**  
**The Re-Mission™ Development Team**

- Pamela Omidyar and the HopeLab Team
- Pamela Kato, Ed.M., Ph.D.
- Bradley Pollock, MPH, Ph.D.
- Steve Cole, Ph.D.
- Ivan Beale, Ph.D.
- Christina Baggot, RN-CS, MN, PNP, CPON
- Andrew Bradlyn, Ph.D.
- Jonathan Eubanks
- Terminal Reality Inc.
- RealTime Associates Inc.
- Treanor Brothers

---

HopeLab