



Interactive Disaster Preparedness: Gaming for Children, Teachers and Parents

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Interactive Disaster Preparedness: Gaming

- Why disaster preparedness?
- What's so great about games?
- What is Disaster Hero?
- How is Disaster Hero being created?



All children's artwork: www.fema.gov/kids



Interactive Disaster Preparedness: Gaming

- **Disaster Preparedness and Apathy**
 - One of the social realities to be faced in disaster planning is that the general attitude toward disaster preparedness is apathy
 - Apathy pervades governmental bodies as well as the public at large.
 - **Public apathy** is due to the fact that public awareness of disaster risks is generally poor. Even in communities where disasters have occurred relatively frequently.
 - The motivation for choosing where to live is dictated by economic opportunities (a better job) or aesthetic reasons (the risk of wildfire is overridden by the breathtaking view) rather than concern about natural or technological hazards (Drabek, 1986:322,358).



Interactive Disaster Preparedness: Gaming

- **Disaster Preparedness and Apathy**
 - Governmental Apathy is reflected in a lack of political support for disaster preparedness.
 - Programs have been difficult to initiate or maintain unless they have been demanded by the citizens or mandated by law and paid for by the state or federal government (Tierney, 1985b:73; Davenport, 1978:12).



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- **Mass-Casualty Events at Schools: A National Preparedness Survey by Dr. Graham et al.**

Journal of Pediatrics 2006

- The objective was to document the preparedness of public schools in the US for the prevention of and the response to a mass casualty event.
- A survey was mailed to 3670 school superintendents of public school districts that were chosen at random from a list of school districts from the National Center for Education Statistics of the US Department of Education.



Interactive Disaster Preparedness: Gaming

- **Mass-Casualty Events at Schools: A National Preparedness Survey by Dr. Graham et al.**

Journal of Pediatrics 2006

- Most (86.3%) school superintendents reported having a response plan, but fewer (57.2%) have a plan for prevention.
- Most (95.6%) have an evacuation plan, but almost one third (30%) had never conducted a drill. Almost one quarter (22.1%) have no disaster plan provisions for children with special health care needs, and 25% reported having no plans for post-disaster counseling.
- Almost half (42.8%) had never met with local ambulance officials to discuss emergency planning.
- Urban school districts were better prepared than rural districts on almost all measures in the survey.

Interactive Disaster Preparedness: Gaming

- **Mass-Casualty Events at Schools: A National Preparedness Survey by Dr. Graham et al.**

Journal of Pediatrics 2006

Conclusion of the study:

- There are important deficiencies in school emergency/disaster planning.
- Rural districts are less well prepared than urban districts.
- Disaster/mass casualty preparedness of schools should be improved through coordination of school officials and local medical and emergency officials.

Interactive Disaster Preparedness: Gaming



Interactive Disaster Preparedness: Gaming

- **Why disaster preparedness?**

- Government & disaster-relief organizations will help, but you need to be ready
- Local responders may not be able to reach you immediately, or they may need to focus their efforts elsewhere
- Get a kit, make a plan, and be informed (Red Cross)



Interactive Disaster Preparedness: Gaming

- **Why disaster preparedness?**

- American Red Cross—only 7% of population prepared for a disaster or emergency
- FEMA—children who experience catastrophic event often feel helpless
- Children highly vulnerable—after a disaster; foundations of child's life may suddenly collapse
- How well children and adults respond effects the number of people who survive a catastrophic event



Interactive Disaster Preparedness: Gaming

• Why disaster preparedness?

- **Kids** only know basic information, such as remaining calm, not panicking, calling 9-1-1, and listening to parents, but have not discussed emergency plans with parents and do not know what to do
- More than 50% say their families not prepared
- Most believe their schools not prepared
- Most report they feel afraid, terrified when they hear about possible bad weather near where they live



Interactive Disaster Preparedness: Gaming

- **Why disaster preparedness?**

- **Parents:** Only 1/3 of parents have talked to their children about disastrous events
- Said it is important for children to know: they will be safe, how to react quickly and safely, where to go and where to meet, how to stay safe, difference between a warning and a watch
- **Teachers:** Concerned because more information and content has been taken out of the health curriculum

Most students do not believe “it” will happen to them



Interactive Disaster Preparedness: Gaming

- Why disaster preparedness?
- **What's so great about games?**
- What is Disaster Hero?
- How is Disaster Hero being created?



Interactive Disaster Preparedness: Gaming

- **What's so great about instructional games?**

Play is a very serious matter....It is an expression of our creativity; and creativity is at the very root of our ability to learn, to cope, and to become whatever we may be.

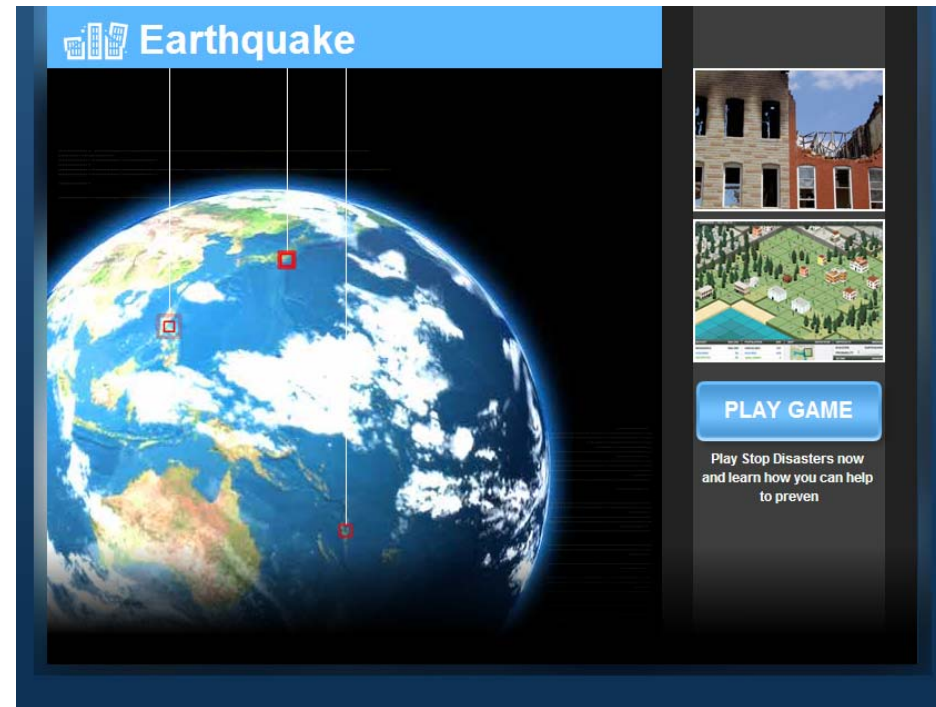
(Fred Rogers & Sharapan, 1994)



Interactive Disaster Preparedness: Gaming

Stop Disasters!

- Created by the International Strategy for Disaster Reduction
- Common objective: reducing the number of dead and injured by disasters triggered by natural hazards.
- Focused on 9-16 year olds and each scenario takes between 10 and 20 minutes to play.
- The player's role is to plan and construct a safer environment



<http://www.stopdisastersgame.org/en/home.html>

Stop Disasters!


Info coming...real life feel



COST OF DAMAGES **\$24,850**
PEOPLE INJURED **307**
PEOPLE DEAD **11**

DAILY NEWS POST

\$1 Thursday 28 February 2007



This is not the News...



It just seemed like a rushed decision to give the Olympic games the needed kick back into cost, an event so simple that anyone can play and make those not sporty kids feel like they could have a shot at being a professional athlete yet but remember kids, lead trapping doesn't

Tina Johnson reports from a school that is withdrawing the sport by what it truly is and is devoting an entire afternoon per week just for Physical Education, safety teaching training and kick back into cost, an event so simple that anyone can play and make those not sporty kids feel like they could have a shot at being a professional athlete yet but remember kids, lead trapping doesn't make you cool, in fact if anything it probably makes you a hell of a lot less cool and guaranteed you'll still be kicked in the face by those football players, anyways that they smooch you out.

Earthquake Strikes!

Earlier today an earthquake hit this Mediterranean town. The earthquake came with no warning to the residents so they had to flee from their homes if they could. A survivor reported "We have a community centre designed to shelter people as it's a known hot spot for earthquakes but there was no warning whatsoever." Homes in this small community suffered enormous damage currently estimated at \$24,850. Most recent estimates show the death toll has raised to 11 and a further 307 seriously injured. We have launched a full investigation into the poor planning. Our recently appointed town planner has been suspended pending the results of the report."

[View Scene](#)
[View Report](#)


BUDGET	\$50,000	POPULATION	600	MAP	SHOW RISK	DIFFICULTY	EASY
REMAINING	\$31,490	UNHOUSED	0		DISASTER	EARTHQUAKE	
HOUSING	\$18,510	HOUSED	607		PROBABILITY		
DEFENCES	\$0	SHELTERED	0		SCORE	0009230	

<http://www.stopdisastersgame.org/en/home.html>

Stop Disasters! Screen Report

COST OF DAMAGES **\$10,550** PEOPLE INJURED **114** PEOPLE DEAD **110**

MISSION REPORT



CLASSIFIED

HOUSING AND DEVELOPMENT

BUILDINGS DESTROYED	32	TOTAL DAMAGES	\$10,550
POPULATION HOUSED	503/500	POPULATION DIED	110
POPULATION SHELTERED	0	POPULATION INJURED	114

MISSIONS

SCHOOL BUILT	PASS	HOSPITAL BUILT	PASS
SCHOOL DESTROYED	-1000		



SCENARIO MISSION : BUILD 4 HOTELS : FAIL

BONUS

KEY FACTS FOUND	5	BUDGET REMAINING	\$22,065
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FINAL SCORE : 4,050

continue...

BUDGET	\$35,000	POPULATION	500	MAP	SHOW RISK	DIFFICULTY	HARD
REMAINING	\$22,065	UNHOUSED	0			DISASTER	TSUNAMI
HOUSING	\$12,935	HOUSED	503			PROBABILITY	
DEFENCES	\$0	SHELTERED	0			SCORE	0004050

<http://www.stopdisastersgame.org/en/home.html>

Disney Health Kids (Camp Champ): Healthy Eating

Disney

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INCREDIBLE ISLAND

Acres, Sam!

SAMANTHA

That's Chip- the head counselor for Lazy Acres, the camp across the lake. He likes to try and annoy me by calling me Sam, so I usually just ignore him. He's here because we're hosting this week's Healthy Kids Challenge!

TOKEN BANK

SCOREBOARD

These are the top 10 over all and daily camper scores. Are YOU up there?

TOP OVERALL		TODAY'S TOP	
PIXELADY	500	PIXELADY	500
JONESY	450	JONESY	450
12STEP	375	12STEP	375
DELLAVIA	330	DELLAVIA	330

<http://adisney.go.com/healthykids/home/>

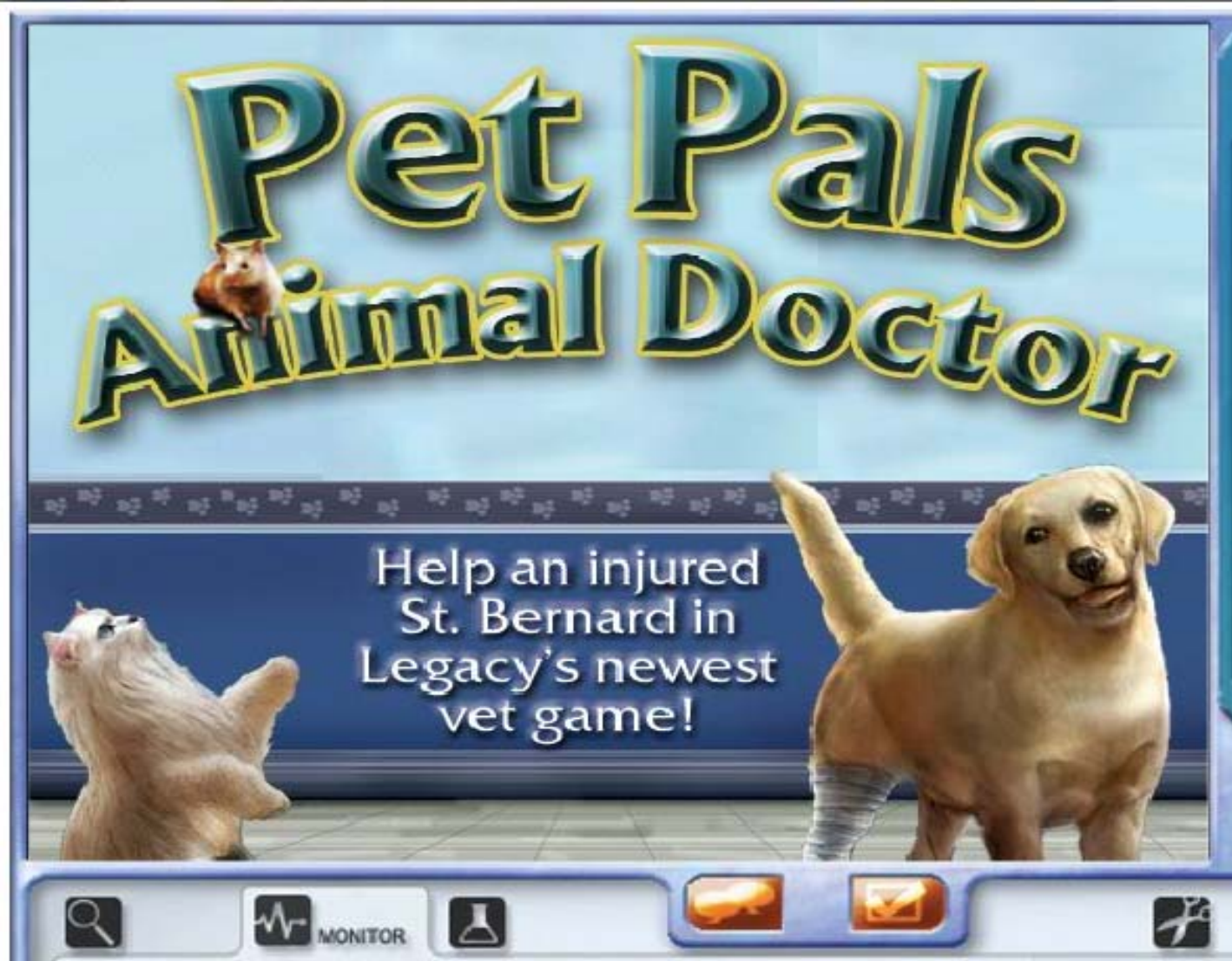
Incredible Island

- It covers physical activity and eating right
- Players click on the vegetables and food facts appear on the screen
- Players can then play a trivia game with the information they learned.



<http://adisney.go.com/healthykids/home/>

Interactive Disaster Preparedness: Gaming



<http://adisney.go.com/healthykids/home/>

Interactive Disaster Preparedness: Gaming



http://www.legacygames.com/online/play/328/pet_pals%253a_animal_doctor/

Interactive Disaster Preparedness: Gaming

The screenshot shows a game interface for 'Pet Pals' with a central Q&A panel. On the left, a vertical orange bar features a 'LIVE' indicator, a 'DH' logo, and the text 'DISASTER HERO'. The main Q&A panel has a dark background with the text 'Q&A' and 'Ask the 3 correct questions. You have 4 chances.' Below this are five multiple-choice questions, each with a green arrow icon. A green 'DONE' button is at the bottom right of the panel. To the right, a 'Pet Info' section contains the instruction 'Use the magnifying glass to take a closer look at the animal.' Below this are several icons: a question mark, a magnifying glass, a book, and a play button. At the bottom of the interface is a toolbar with icons for 'EXAMINE', 'MONITOR', 'TEST', 'Q & A', 'MAINTAIN', 'OPERATE', and 'MEDICATE', along with various medical tools like a stethoscope, syringe, and bandage. A 'CLOSE' button is located at the very bottom center.

Q&A

Ask the 3 correct questions. You have 4 chances.

- ▶ What has she been doing differently lately?
- ▶ Is she hurting anywhere?
- ▶ What country does your pet come from?
- ▶ Did you notice anything strange about Liza Mae?
- ▶ Does Liza Mae normally wear a flea collar?

DONE

SCORE: 0

Pet Info

Use the magnifying glass to take a closer look at the animal.

EXAMINE **MONITOR** **TEST** **Q & A** **MAINTAIN** **OPERATE** **MEDICATE**

CLOSE

http://www.legacygames.com/online/play/328/pet_pals%253a_animal_doctor/

Zoo Vet :Taking Care of Wild Animal



http://www.zoovetgame.com/images/screens/main_menu_screen.jpg

Interactive Disaster Preparedness: Gaming

- **What's so great about instructional games?**
 - Increase interest and motivation; grabs attention
 - Provide enjoyable and fun experiences
 - Improve retention
 - *Enhance cognitive skills (such as problem solving, decision making, organization, and critical thinking)*
 - Use sophisticated learning strategies
 - Interactivity with several levels of difficulty
 - Information categorized by user's needs (e.g, state / region)
 - Scenario-based activities lead to mastery
 - Downloadable activities, e.g., checklists, quizzes, posters, lesson plans

Interactive Disaster Preparedness: Gaming

- What is disaster preparedness?
- What's so great about games?
- **What is Disaster Hero?**
- How is Disaster Hero being created?



Interactive Disaster Preparedness: Gaming

- **What is Disaster Hero?**

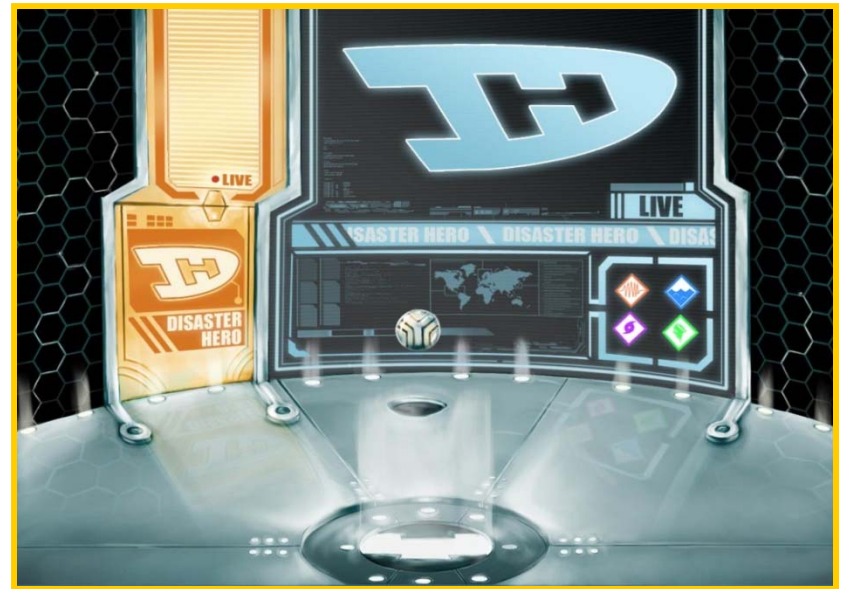
- Interactive, online game for grades 1-8
- Designed to teach children, parents, & teachers / caregivers
- Provides multiple games within 4 scenarios: earthquakes, floods, hurricanes, tornadoes
- Emphasizes 3 steps to preparedness:
Make a plan, get a kit,
and be informed



Interactive Disaster Preparedness: Gaming

- **What is Disaster Hero?**

- Dante Shields is the most famous and decorated disaster rescue specialist
- He creates Disaster Area, a disaster simulation and training facility
- His team, “Ultimate Disaster Heroes,” compete against game players
- Game players who defeat an “Ultimate Hero” become ***Disaster Heroes***



Interactive Disaster Preparedness: Gaming

- **What is Disaster Hero?**

- **Dante Shields** world's “go-to” person for dangerous disaster rescues
- Strong, experienced
- Tons of first-hand knowledge
- Knows what it takes to get the job done; has scars to prove it
- Commands instant trust
- His stories inspire greatness
- Instills common sense, hard work and persistence



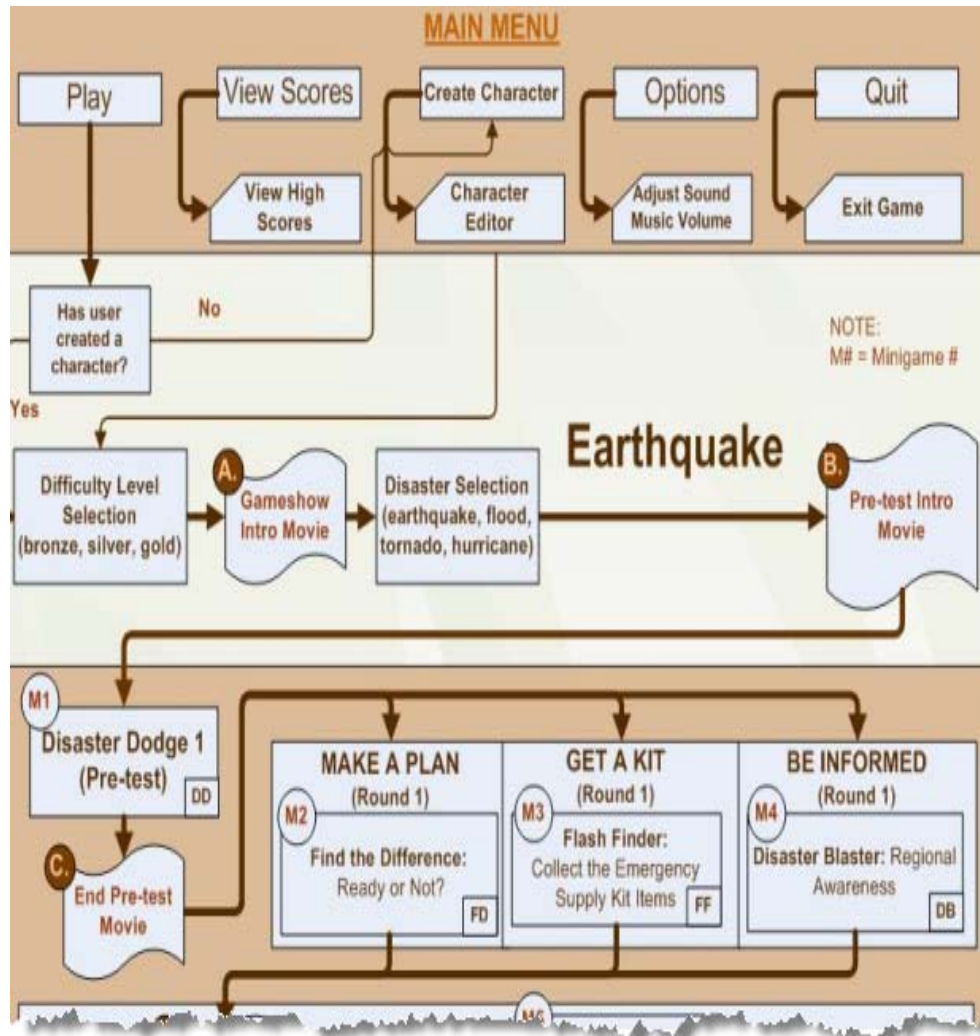
Interactive Disaster Preparedness: Gaming

- **What is Disaster Hero?**

- **Mika (MEE-kah)**, rescued by Shields, who took Mika “under his wing”
- An orphan, raised in computer world
- One of most respected and feared hackers on the web.
- Young, smart, spirited, a bit quirky
- Always “on-line” and “tapped in” to cyber world
- Unusual predilection for using computer terminology

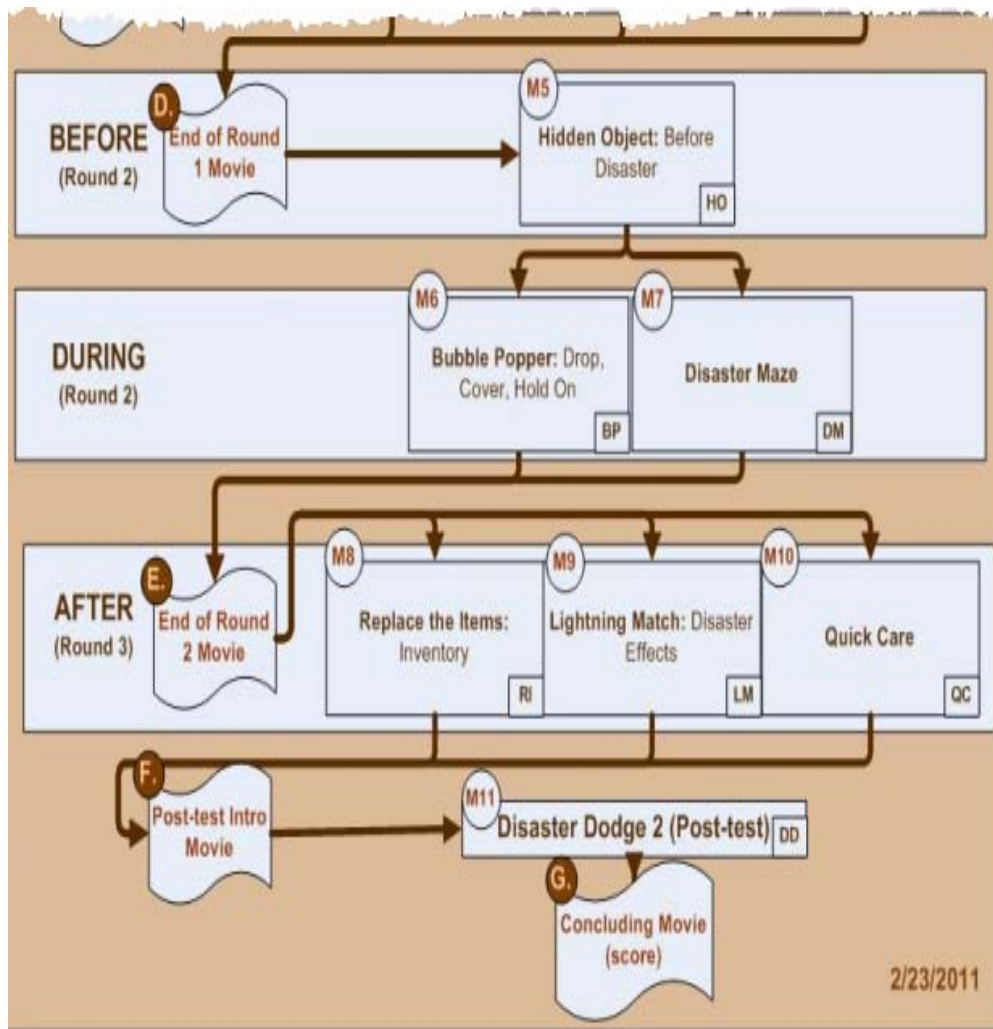


Interactive Disaster Preparedness: Gaming



- Create your character
- Select difficulty level
- Introduce Dante and Mika and Ultimate Heroes
- Select disaster scenario
- Pre-test—Disaster Dodge minigame
- Make a plan—Find the Difference minigame
- Get a kit—Flash Finder minigame
- Be informed—Disaster Blaster, map

Interactive Disaster Preparedness: Gaming



- Movie wrap-up of round 1
- **Before**—Hidden Object minigame
- **During**—Bubble Popper; Disaster Maze minigames
- **After**—Replace items, Lightning Match, Quick Care minigames
- Post-test intro movie
- Post-test—Disaster Dodge minigame
- Concluding movie, **player score**

Interactive Disaster Preparedness: Gaming

- **What is Disaster Hero?**



The graphic features two characters in a futuristic control room. On the left, a man with a mustache in a white and brown jacket stands with hands on hips. On the right, a woman with purple hair and goggles sits in a futuristic chair, holding a tablet. A large blue speech bubble contains text about the game. The background has orange and blue panels with 'DISASTER HERO' and 'LIVE' text. At the bottom are logos for the American College of Emergency Physicians, FEMA, and Legacy Interactive.

DISASTER HERO

COMING 2011

American College of Emergency Physicians and Legacy Interactive team up to create **DISASTER HERO**, an original web-based game designed to enthrall and teach children and their families practical knowledge on how to prepare for and deal with natural disasters or emergencies.

American College of Emergency Physicians®
ADVANCING EMERGENCY CARE

U.S. DEPARTMENT OF HOMELAND SECURITY
FEMA

LEGACY
INTERACTIVE

Interactive Disaster Preparedness: Gaming

- **What is Disaster Hero?**
- **Hurricane Hero**

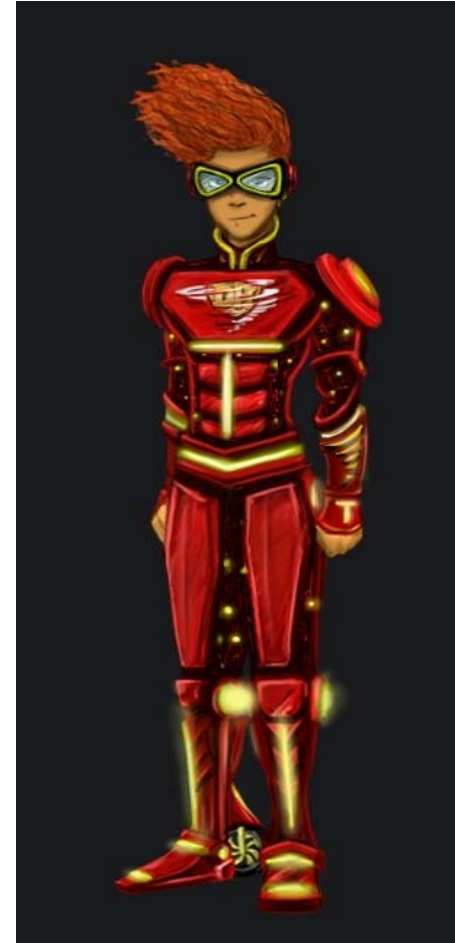


What is Disaster Hero?

Flood Hero



Wirlwind



What is Disaster Hero?

Welcome OKHero Logout SEARCH 60

PLAY NOW GAME STATUS COMMUNITY MORE

WELCOME TO DISASTER HERO

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed arcu mi, blandit vel accumsan ut, placerat id nunc. Praesent sodales bibendum est in ultrices.

GAME PREVIEW

SIGN-UP & START PLAYING TODAY

Sign-up now

PARENTS & TEACHERS RESOURCES

Learn more

NEW HEROES

UPDATES

Learn more

LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT. LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT.

Interactive Disaster Preparedness: Gaming

- Why disaster preparedness?
- What's so great about gaming?
- What is Disaster Hero?
- **How is Disaster Hero being created?**



Interactive Disaster Preparedness: Gaming

- **How is Disaster Hero being created?**
- **Funding**
 - Federal Emergency Management Agency (FEMA) to ACEP
- **Partnering**
 - ***Federal partners***
 - Agency for Healthcare Research and Quality
 - Centers for Disease Control and Prevention
 - Office of the Assistant Secretary for Preparedness and Response



Interactive Disaster Preparedness: Gaming

• How is Disaster Hero being created?

◦ *National partners*

- American College of Emergency Physicians
- American Academy of Pediatrics
- American Red Cross
- Boy Scouts; Girl Scouts; YMCA of Metropolitan Dallas
- Emergency Medical Services for Children
- Emergency Nurses Association
- International Association of Emergency Managers
- National Association of Pediatric Nurse Practitioners
- National Child Care Association
- National Parent Teacher Association
- State and Territorial Injury Prevention Directors Association



Interactive Disaster Preparedness: Gaming

- **How is Disaster Hero being created?**
- Creating and following goals and learning objectives
 - *Be prepared* by working with family to get an emergency and evacuation kits, talk with parents about what to do, and know what could happen in their area
 - List types of hazardous events common to specific state or region
 - Recognize injuries common in specific types of disasters
 - Describe appropriate techniques for personal protection before, during, immediately following event
 - List supplies needed for protection from and treatment of injuries prior to arrival of first responders
 - Select quick-care techniques for common injuries



Interactive Disaster Preparedness: Gaming

- **How is Disaster Hero being created?**
 - Performing user and sme evaluation at every step
 - **Prototyping**
 - **Alpha testing**
 - Stakeholder groups, ACEP staff and members
 - Usability testing with target audience
 - **Beta testing**
 - Specific stakeholders, ACEP staff and members
 - **Web metrics**
 - Usage metric analyzed monthly
 - Game mastery by target audience



Interactive Disaster Preparedness: Gaming

- **How is Disaster Hero being created?**

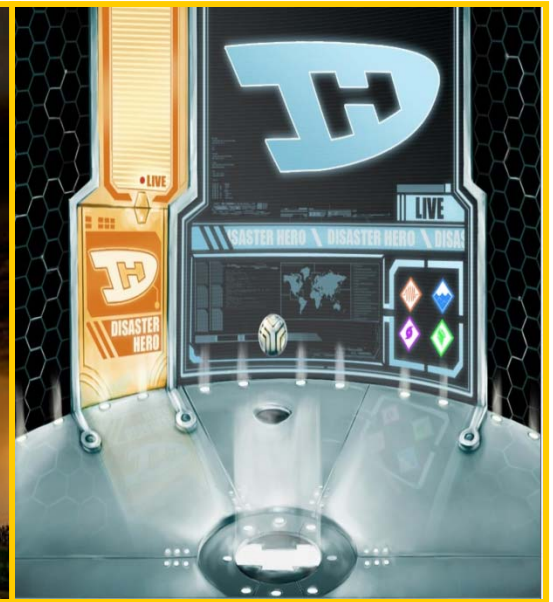
Following an instructional design process:
(ADDIE)



- Confirm (Planning, **Analysis**), Organize (**Design**, **Development**),
- Review (**Implementation**, **Evaluation**), Enable (Sustainment)

Interactive Disaster Preparedness: Gaming

- **Why teach preparedness to kids?**
 - So they know what to do & how to protect themselves



Interactive Disaster Preparedness: Gaming

- **Why teach preparedness to kids?**

Specifically they need to know:

- **Types of hazardous incidents** categorized by state or region
 - Learn what disasters are likely to happen where they live
- **How to stay safe before, during, & immediately after an incident**
 - Learn specifically what to do for earthquakes, floods, hurricanes, and tornadoes
- **Types of injuries common to specific types of disaster**
 - Learn basic quick-care techniques for common injuries, i.e., cuts, scrapes, broken bones, hypothermia, burn
- **Red Cross - “get a kit, make a plan, be informed”**
 - Learn to be prepared by working with family to get an emergency and evacuation kits, talk with parents about what to do, and know what could happen in their area



Interactive Disaster Preparedness: Gaming: Questions????

