The Cure for Bad L	Jser Interface Design		
and Feature Creep		-	
and realure Creep			
Carlos Anderson			
Department of Radiation Oncology University of Michigan			
Disclosure of conflict of in	terest		
I receive compensation from Varian	Medical Systems for educational training		
	tation are my own and do not reflect the		
official position or policy of the Dep	artment of Radiation Oncology at the		
University of Michigan			
	The Hawaii false missile alert		
Outline	Designing better user interactions		
o a tim to			
	Best practices for interaction design		

The Hawaii false missile alert	
The political context for the alert system	
CO COM	
Takes States	
Const	
Nu tudam, dala km	
186.4.4.7.70 s.m. (197.4.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7	
"The entire United States is within range of our nuclear weapons, a nuclear button is always on my desk." Kim Jong-un	
Saturday, January 13	
⚠ EMERGENCY ALERTS now	
Emergency Alert	
BALLISTIC MISSILE THREAT INBOUND TO HAWAII, SEEK IMMEDIATE SHELTER. THIS IS	
NOT A DRILL. Slide for more	

After 38 minutes, a false alarm was announced	
The state of the s	
The missile alert system's user interface	
DIAGE THEM AREA CARES - STREET COURTS AND A CARES AND A CARES AND A CARES - STREET COURTS AND A CARES	
PACCAS COVEN ARTER CONV. Shamen Warren CORN. AFAIR CONV. CHILL - INCORPORATION ARTER CONV. 1. TEST Message	
False Alarm BMD (CEM) - STATE ONLY Monthly Test (RMT) - STATE ONLY	
PACOM (CDW) - STATE ONLY This is the two flow of the balletic reside over on Bankelly. The operate coloned on PACOEI (CDW) place only in. The off in in the own that low seeponded to be distant displaced. 2017/07/2019 (2017) (Smooth, 16) 2017/07/2019 (2017) (Smooth, 16)	
Schol Self a Jar Western William Control of the Con	
Any critical system, whether it's in a hospital or a critical alert system for	
public safety, should be specifically designed to prevent errors like this. If a system is designed appropriately, errors should be very hard to do.	
Kim Flaherty	
User Experience Specialist Nielsen Norman Group	

The aftermath and investigation report	
c. Employee 1 has been a source of concern for the same SWP staff for over 10 years. Employee 1's poor performance has been courseled and documented and the SWP remembers have stand that they are 'not conflotable.	
with Employee 1 as a supervisor, how-man haven, or as a part of the DWP in security. Set is a clear and table replacement have not absent to the DWP in SYNOPSIS:	
At approximately 8:06 am, the SWP mistakenly issued a BMA. As the	-
investigating officer and carefully considering the facts. If find a preponderance of evidence exists that finedflicent management controls, poor computer achievance [design, and human factors] contributed to the real-world BMA and the obleyed	
Page 1 of 13 Employee 10 requestering and sent the MAMMAD stating first countines shown that it was just a citil. Employee 2 was on the process with Complayee 0 building them on the statutors. Employee 6 was anothing the command staff. Employees the was safety as stating the command staff. Employees the was safety as a stating the command staff. Employees 1 was safety as set the cannot message. At no point did Employee 1 waster in the processe of connecting the Farra Alac.	
students. Exhapsive of wall subtrary that Contentinal staffs: Exemply in and severed contention. Since the content staffs is exhapped in was starting and severed to chanced. Employee 3 such control of Employee 1's mouse and sent the cancel message. At no point did Employee 1's assist in the process of correcting the Faise Adert.	
Employee 1 has been terminated.	
	_
Designing better user interactions	
Developers "are given	
incomplete, myopic, confusing, and sometimes contradictory	
instructions and are forced to	
make significant decisions about	
the user experience with little	
time or knowledge of how people will actually use their creations."	

Alan Cooper in "About Face" (2014)

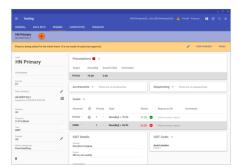
Interaction design



Interaction design should come before programming



			H&N Plar	nning Di	rective		
Primary Physician:							
Expt: VMAT Imaging:CT Other instructions		Scan Dati	*	Image Serie	s: Protocok:	-	
Targets (check all to I	Dutaseti		Commercs/inst	uctions			
CIVIA	Eler El	MR					
□CTV2#	Ect E	MR					
CIA98	Eler El	MR					
PTVs	СТ		PTVs = CTVs = 0. "For RTOG1216	3 om or minimum CTV-	PTV expension is 0.5 cm		
Additional Target Invi	ructions:						
Apply skin sparing	Choose						
Tarnet Prescription &	Goelic licheck	ell to be con	naved				
Structure Pr	riority	Prescription	on .	Coverage Gos			
□FTV1 2	or	10 Gy		> 99% (or < 1% (or	3 vol receives > 99% jar 5 vol receives > 107% jar) Rx Dose) Rx Dose	
□FTV2 2	or I	Choise		> 100% (or < 0% (or) vol receives > 95% (or) vol receives > 105% (or	3 Rx Dose 3 Rx Dose	
_	or IIII	Choose		> 100% (or < D% (or	3 vol receives > 95% (or 3 vol receives > 105% (or) Rx Dose) Rx Dose	
2	or			> 300% (or < 0% (or	3 vol receives > 95% (or 3 vol receives > 106% (or	3 Rx Dose 3 Rx Dose	
2	or			> 100% (or < 0% (or) vol receives > 95% (or) vol receives > 105% (or) Rx Dose) Rx Dose	
	Orone						
Total # of fractions:							





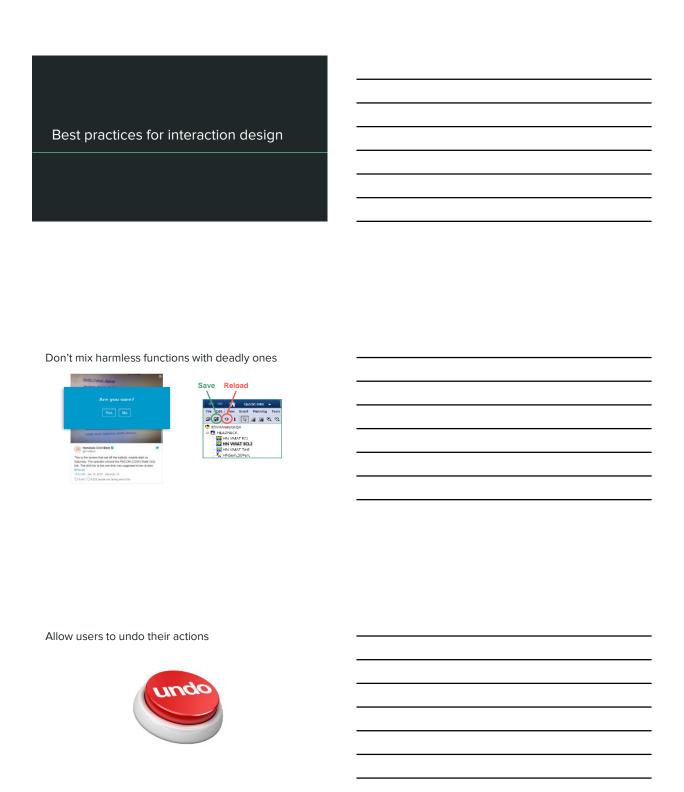
Interaction design should be done by designers











Prefer data immunity to data integrity	
User Data Data Data Data Data Software	
Data integrity Data immunity User must clean the data Software is resilient to bad data	
Don't blindly add features the user asks for	
So to the contract of the cont	
00000-044-07-05 Dec. Section	
The contract of the contract o	
Acknowledgements	
Xiaoping Chen Jim Irrer Marc Kessler	
Markus Varsta Grant Weyburne John Yao	
Thank You Recommended reading	
A B O U T F	