CSE490D-CSE481K/HCDE496 – 2011

Designing Technology for Resource-Constrained Environments

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Motivations

- Mobile as platform for data management
 - [–] Available to 90% of the world population and 80% of population living in rural areas

Design & Features

- Cloud database on a smartphone
- Managing data using table model
- Transferring data through SMS

Visualization

	(00000000000000000000000000000000000000	0
	SAMSUNG	3
🛕 🔮 🍈 ODK Tables		🚮 🛃 16:33
* 2		Enter
	prices	
product	market	seller
corn	Foshan	Yang
corn	Foshan	Li
corn	Yichang	Chang
oranges	Changde	Lo
oranges	Yichang	Chang
oranges	Yichang	Lin
wheat	Foshan	Feng
wheat	Foshan	Yang

- Mobile-to-Mobile data communication
 - [–] Addition and query to the database through SMS/GPRS

Interactive Demo

What would you name your child? Send SMS to 206-962-0964

1) Female Child

- @child +n YOUR CHILD NAME
- Ex) @child +n Mary

2) Male Child

- @child YOUR CHILD NAME
- Ex) @child Joe



Organizing Table

Indexing

_	_	_		📊 💶 21:35	
Chang			Enter		
prices					
market	seller	buyer	price	unit	
Foshan	Yang	Wu	.29/kg	40kg	
Foshan	Li	Wu	.28/kg	205kg	
Yichang	Chang	Hu	.25/kg	1500kg	
Changde	Lo	Cheng	1.02/kg	120kg	
Viebeng	Chang	linna	25/1/2	100kg	
	market Foshan Foshan Yichang Changde	marketsellerFoshanYangFoshanLiYichangChangChangdeLo	pricesmarketsellerbuyerFoshanYangWuFoshanLiWuYichangChangHuChangdeLoCheng	Frice market seller buyer Market seller buyer price Foshan Yang Wu .29/kg Foshan Li Wu .28/kg Yichang Chang Hu .25/kg Changde Lo Cheng 1.02/kg	

ODK Tables				1	Enter
prices					
product*	market	seller	buyer	price	unit
corn	Yichang	Chang	Hu	.25/kg	1500kg
oranges	Yichang	Lin	Hu	.98/kg	80kg
wheat	Foshan	Yang	Wu	.28/kg	100kg
3				.25/kg	100kg

Collection-View

▲ 🔮 🛅 🗧 21:38 ODK Tables						
* 2			Enter			
	prices					
product*	market	seller	buyer	price	unit	
corn	Foshan	Yang	Wu	.29/kg	40kg	
corn	Foshan	Li	Wu	.28/kg	205kg	
corn	Yichang	Chang	Hu	.25/kg	1500kg	
3				.25/kg	1500kg	

Access Control

- Read/Write groups
- Password protected
- Filters SMS additions and queries by access groups and matching

Import/Export

- CSV import/export to the local storage
- Backup and restore from cloud database



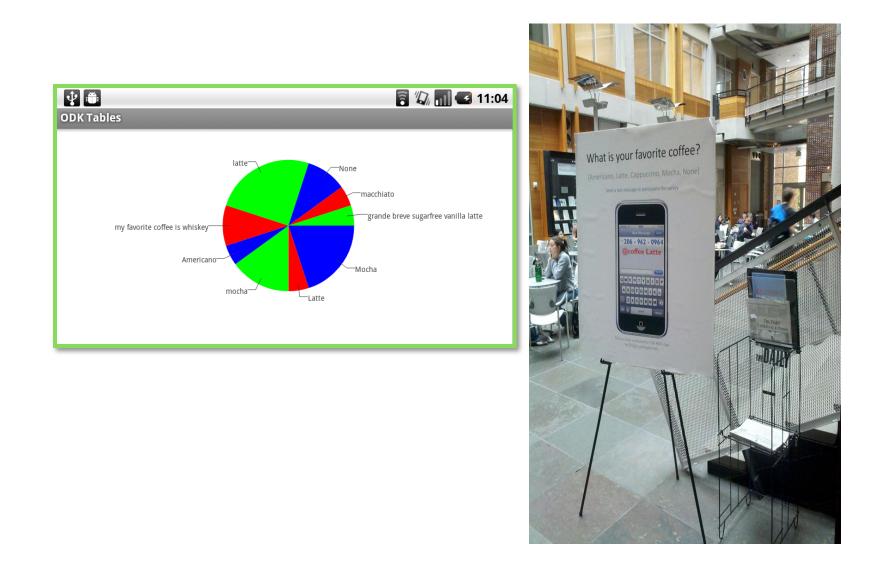
passwords

Use Cases

Data Collection Only

Survey

Q: What is your favorite coffee? {Americano, **A:** @Coffee Latte, Cappuccino, Mocha}

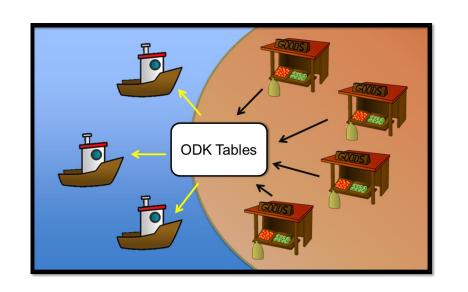


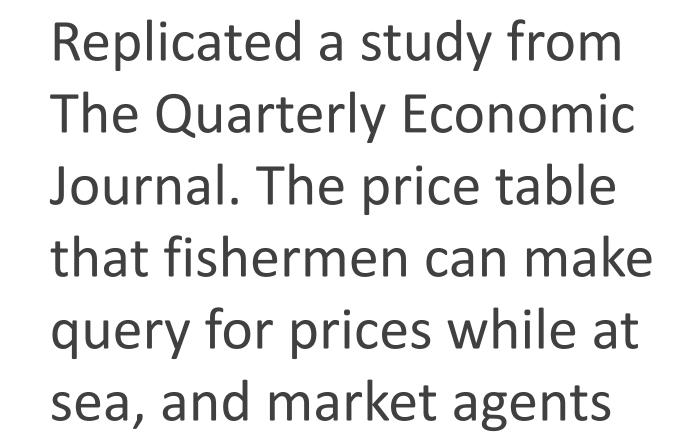
Classroom



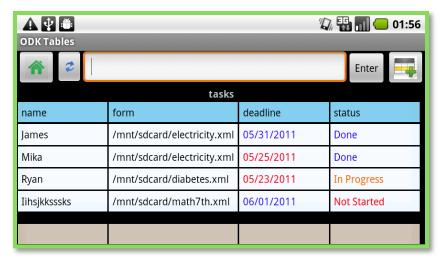
- Replacing clickers in INFO200 class (30-45 students):
- Yes/No
- Multiple Choice
- Free Answer

Data Collection and Dissemination Market Place Assign Tasks









Manager assigning tasks to workers using SMS. Workers view the tasks





