GSTechnologies

Improvements on the Kinesia HomeView System

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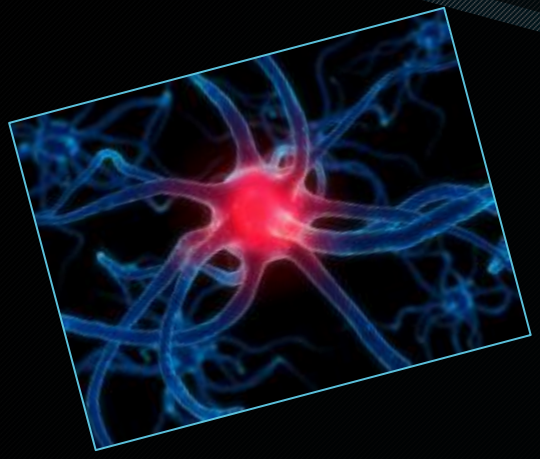
INTRODUCTION



- Parkinson's Disease

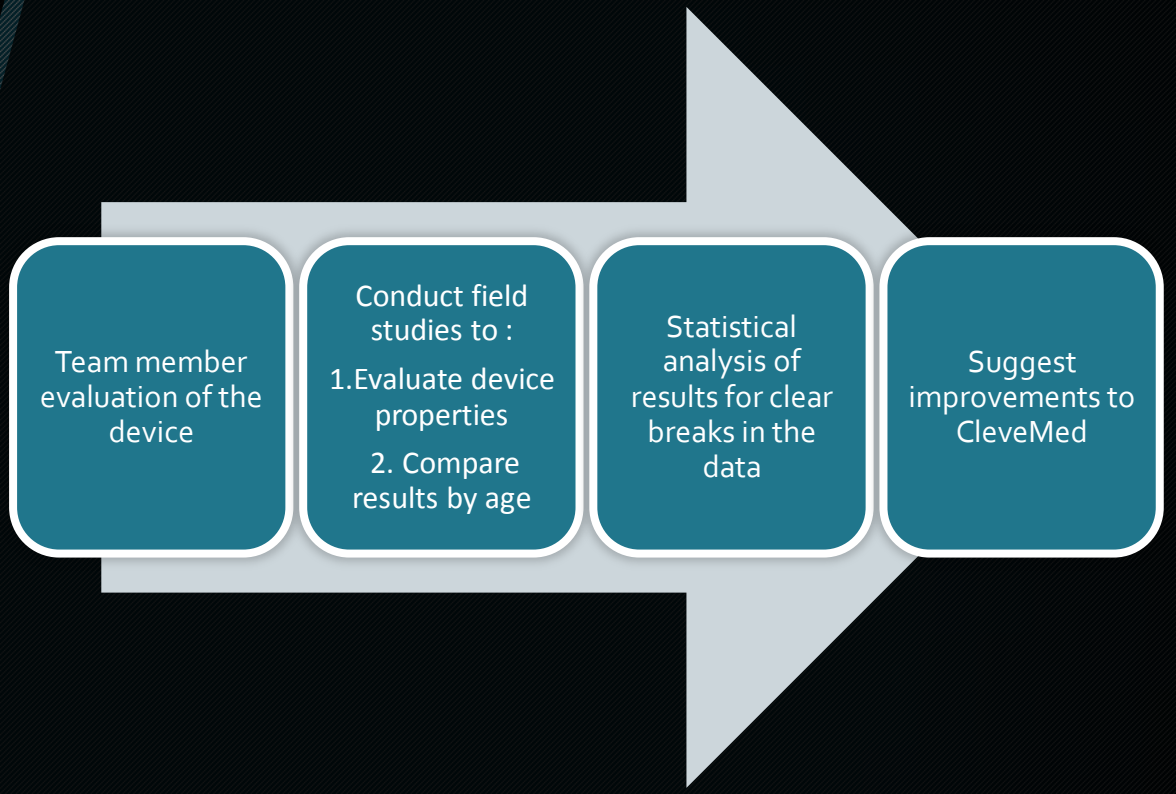
Subjectivity vs. Objectivity

Kinesia HomeView System

- Tablet
- Finger Sensor & Docking Station
- Physician Web-Interface

OBJECTIVES

Our purpose in pursuing this project was to aid CleveMed in producing a product with better user-interface and a more portable design.



METHODOLOGY

Alternative Approaches

- Only Parkinson's patients as subjects
- Subjects from local hospitals
- Subjects from local assisted living communities

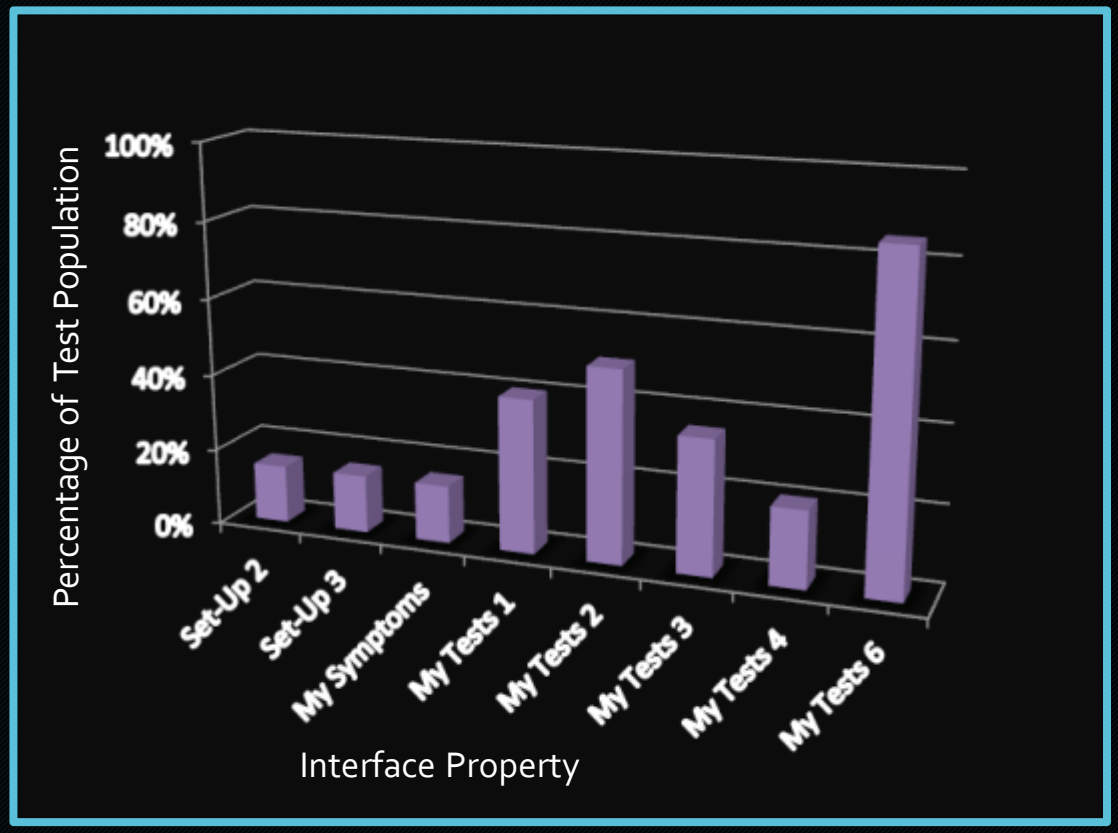
1. Team assessment
2. eIRB application
3. CITI training
4. Patient Pool

   -10 participants: ages 18-30

   -10 participants: ages 31 & above
5. Evaluation by participants
6. Compiled and analyzed using Excel

RESULTS

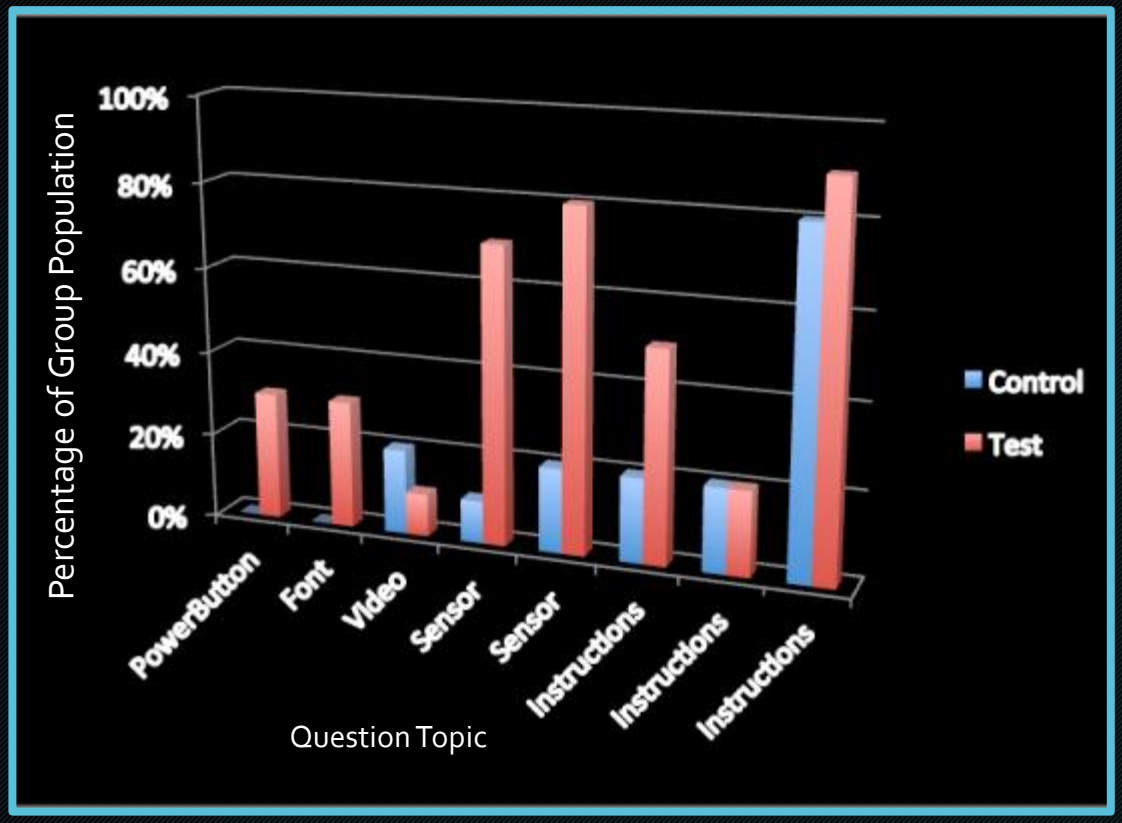
Interface Properties



SUBJECT ASSIGNMENT

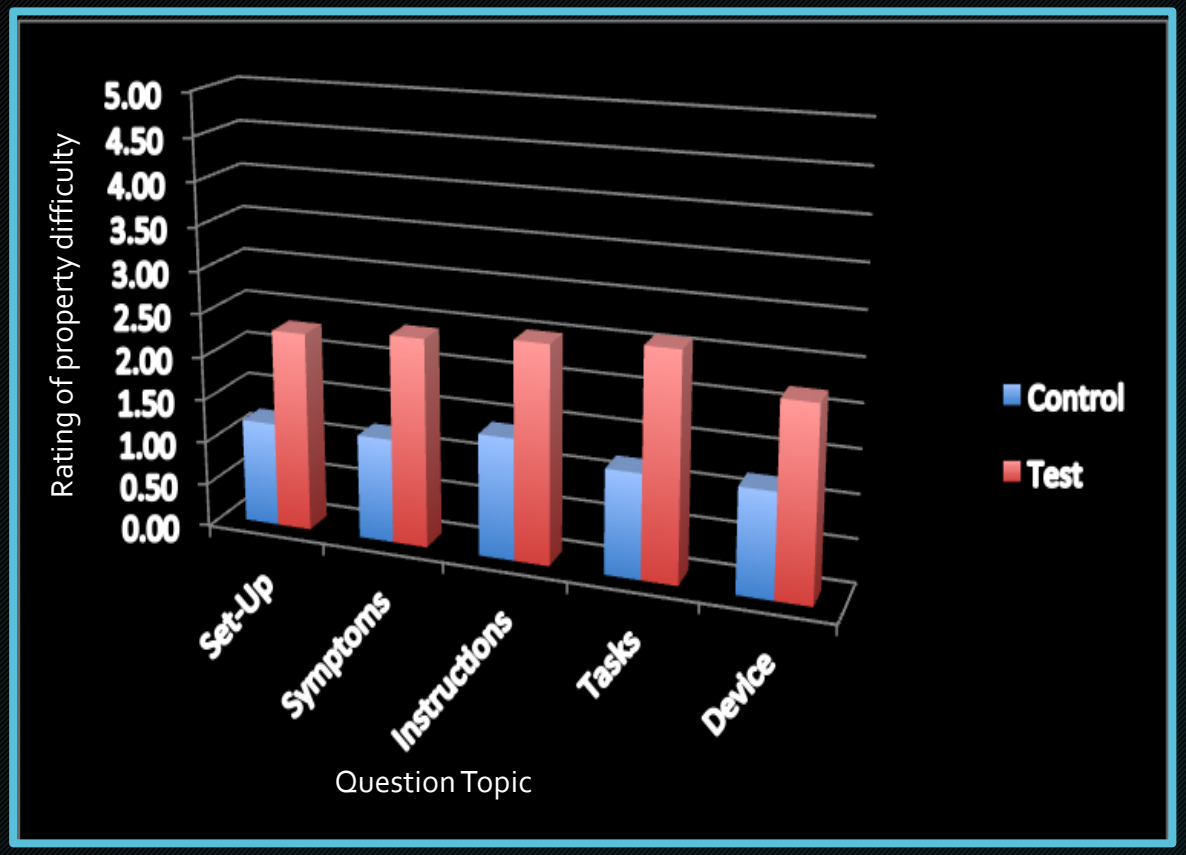
Control Group	Test Group
n=10	n=10
Age: 18-30 years	Age: 31 & above
Parkinson's affects <1%	Parkinson's affects >99%
6.8 hours/day	5.1 hours/day

RESULTS



Control Group vs. Test Group

RESULTS



Control Group vs. Test Group

- Evaluation of Properties ✓

  - >20% desired improvements on "My Tests"

- Evaluation of Control vs. Test Group ✓

  -Valid theory, clear break in data

  -Test groups subjects: more exposed to technology than typical person of that age

- Compiled Comments:

  -Video start-stop functionality

  -Difficult to fit into video screen

  -Unsure of how to wear finger sensor

  -Sensor was too loose

  -Spoken instructions were unclear

  -Volume adjustement or head phone jack would be helpful

DISCUSSION

FUTURE STRATEGIES

Testing on more diverse participant pool

- Amendment to IRB application
  - Parkinson's patients
  - Assisted living communities
    - -Still Hopes
    - -Christopher Towers

- “My Tests” portion of the device
- Physician web-interaction
- Development and implementation of solutions to CleveMed

FUTURE STRATEGIES

PROBLEMS ENCOUNTERED

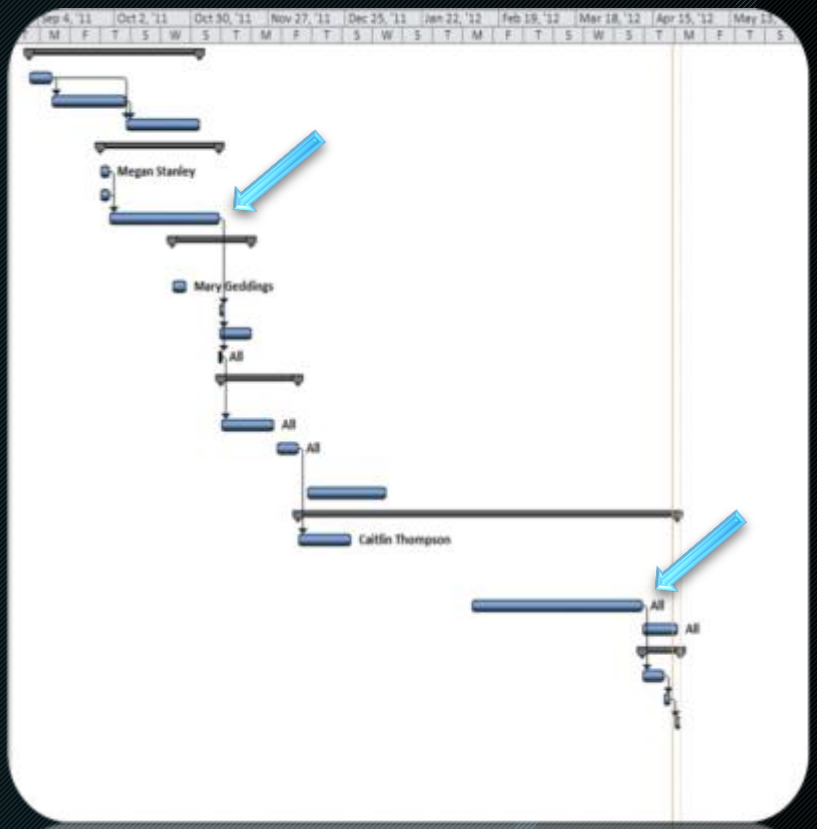
- Initial delay of receiving HomeView system
- Inadequate Parkinson's patient pool
- Delayed submission of eIRB application

  -CITI Training
- Unable to test in assisted living communities

TIMELINE

	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Name
1		**Project Development**	**44 days**	**Thu 9/1/11**	**Tue 11/1/11**		**All**
2		Project Selection	6 days	Thu 9/1/11	Thu 9/8/11		
3		Research Project	19 days	Fri 9/9/11	Wed 10/5/11	2	
4		Research Parkinson's c	19 days	Thu 10/6/11	Tue 11/1/11	2,3	
5		**Obtaining Device**	**31 days**	**Tue 9/27/11**	**Tue 11/8/11**		
6		First contact with spor	3 days	Tue 9/27/11	Thu 9/29/11		Megan Stanley
7		Request for Kinesia Hc	3 days	Tue 9/27/11	Thu 9/29/11		
8		Awaiting arrival of Kir	28 days	Fri 9/30/11	Tue 11/8/11	6,7	
9		**Familiarizing the Team with the Device**	**20 days**	**Sun 10/23/11**	**Sun 11/20/11**		
10		Scheduled conferenc	5 days	Sun 10/23/11	Thu 10/27/11		Mary Geddings
11		Obtained login inform	2 days	Wed 11/9/11	Thu 11/10/11	8	
12		Tutorial of the Kinesi	9 days	Wed 11/9/11	Sun 11/20/11	8	
13		Appraisal of device by	1 day	Wed 11/9/11	Wed 11/9/11	8	All
14		**Planning for Second Semester**	**20 days**	**Thu 11/10/11**	**Wed 12/7/11**		
15		Compiled survey	13 days	Thu 11/10/11	Mon 11/28/11	13	All
16		Planned second semester testing	6 days	Wed 11/30/11	Wed 12/7/11		All
17		Winter break	22 days	Sun 12/11/11	Sun 1/8/12		
18		**Pre-test Planning**	**98 days**	**Thu 12/8/11**	**Mon 4/23/12**		
19		Obtained information on potential trial location	13 days	Thu 12/8/11	Mon 12/26/11	16	Caitlin Thompson
20		eIRB application	44 days	Thu 2/9/12	Tue 4/10/12		All
21		CITI training	9 days	Wed 4/11/12	Mon 4/23/12		All
22		**Testing and Results**	**10 days?**	**Wed 4/11/12**	**Tue 4/24/12**		**All**
23		Testing	6 days	Wed 4/11/12	Wed 4/18/12	20	
24		Compiled results	2 days	Thu 4/19/12	Fri 4/20/12	23	
25		Suggested improvements to CleveMed	2 days	Mon 4/23/12	Tue 4/24/12	24	

Timeline Spreadsheet



Timeline Layout

BUDGET

	Anticipated Cost	Actual Cost
Kinesia HomeView Device	$0	$0
Patient Questionnaires	$30	$0
Consent Forms	$30	$0
Testing Location	$400	$0
Total	$460	$0

Acknowledgements

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- **Nick Metrokos**: University of South Carolina Biomedical Engineering Department
- **Carol Davis**: University of South Carolina Biomedical Engineering Department

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- (6) "Parkinson's Disease" National Parkinson's Foundation. Web. 4 Mar 2012. <http://www.parkinson.org/Parkinson-s-Disease/PD-101>.