• Provide a brief background of our 6 year journey

• Explain how our studio model works

• Share how the unbiased innovation capacity of faculty and students across multiple disciplines can lead cutting edge ideas

• Most importantly…How do you get involved?
UC’s Innovation on Vine

Computer Simulation Center

Niehoff Urban Design Center

Live Well Collaborative
History

An extension of P&G’s open source/connect and develop strategy to a university context: open innovation

Non profit (401c-6) founded in 2007 by University of Cincinnati and P&G. Other initial partners General Mills, Citigroup, and Hill-Rom.

LWC was formed as:

a response to change the way corporations think about how they design products and services by using human centered research

Focus: specialize in research, as well as product and service development for Living Well across the lifespan.
Why The Live Well Collaborative?
Unique interdisciplinary capability of the University of Cincinnati
WHY University of Cincinnati?

Top 10
DAAP, College of Design, Architecture, Art and Planning

No. 1
Industrial Design School

No. 3
Interior Design School

No. 10
Architecture School

Top 25
Research University

Medical School

Nursing School

Business School

Engineering School

College Conservatory of Music

World-recognized Design Program embedded in a Comprehensive Research University
DAAP-School of Design

Diagram:
- DAAP
  - Graduate
    - Master of Design
    - Ex. ships
  - Under Graduate
    - Co-op
      - Fashion
      - Graphic
      - Industrial
      - Interactive
        - Product
          - Runway
        - Product
          - Trans.
Since its official formation in June of 2007 the LWC has completed **35** projects, involved **50+** UC faculty and expert advisors, and almost **500** upperclassmen and graduate students.

<table>
<thead>
<tr>
<th>Company</th>
<th>Project</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boeing</td>
<td>Service Models</td>
<td>Spring 2013</td>
</tr>
<tr>
<td></td>
<td>Flight Attendant Work Redesign</td>
<td>Fall 2012</td>
</tr>
<tr>
<td></td>
<td>Seating Redesign</td>
<td>Spring 2012</td>
</tr>
<tr>
<td></td>
<td>Lavatory Development</td>
<td>Fall 2011</td>
</tr>
<tr>
<td></td>
<td>The Door-to-Door Journey</td>
<td>Winter 2011</td>
</tr>
<tr>
<td></td>
<td>The Future Traveler</td>
<td>Fall 2010</td>
</tr>
<tr>
<td>Kraft Foods</td>
<td>Packaging Design</td>
<td>Winter 2012</td>
</tr>
<tr>
<td></td>
<td>Healthy Snack Solutions</td>
<td>Spring 2011</td>
</tr>
<tr>
<td>University of</td>
<td>TransForum</td>
<td>Winter 2010–Summer 2011</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>UC Simulation Center</td>
<td>Summer 2009</td>
</tr>
<tr>
<td></td>
<td>Old Spice, Secret, Gillette</td>
<td>Summer 2008</td>
</tr>
<tr>
<td></td>
<td>Tide</td>
<td>Spring 2008</td>
</tr>
<tr>
<td></td>
<td>Pur</td>
<td>Summer 2007</td>
</tr>
<tr>
<td></td>
<td>iams</td>
<td>Spring 2007</td>
</tr>
<tr>
<td>P&amp;G</td>
<td>Personal Care</td>
<td>Spring 2013</td>
</tr>
<tr>
<td></td>
<td>Crest &amp; Oral–B</td>
<td>Winter 2011</td>
</tr>
<tr>
<td></td>
<td>Fixodent</td>
<td>Fall 2009</td>
</tr>
<tr>
<td>General Mills</td>
<td>Progresso</td>
<td>Spring 2009</td>
</tr>
<tr>
<td></td>
<td>Betty Crocker</td>
<td>Fall 2008</td>
</tr>
<tr>
<td></td>
<td>Green Giant</td>
<td>Spring 2008</td>
</tr>
<tr>
<td></td>
<td>Yoplait</td>
<td>Fall 2007</td>
</tr>
<tr>
<td>Hill-Rom</td>
<td>Hospital Patient Gown Redesign</td>
<td>Fall 2008</td>
</tr>
<tr>
<td></td>
<td>Alzheimer’s Project</td>
<td>Winter 2008</td>
</tr>
<tr>
<td></td>
<td>iTransition</td>
<td>Summer 2013</td>
</tr>
<tr>
<td></td>
<td>THE DUCHOSOIS GROUP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Development</td>
<td>Fall 2012</td>
</tr>
<tr>
<td></td>
<td>Aging in Place Studio</td>
<td>Winter 2012</td>
</tr>
<tr>
<td>Pfizer</td>
<td>Pain Management Product Development</td>
<td>Winter 2012</td>
</tr>
<tr>
<td></td>
<td>Pain Management Research</td>
<td>Fall 2011</td>
</tr>
<tr>
<td></td>
<td>Chinese Diabetes Interventions</td>
<td>Spring 2010</td>
</tr>
<tr>
<td></td>
<td>Elder Financial Abuse</td>
<td>Spring 2010</td>
</tr>
<tr>
<td></td>
<td>Assisted Mobility Devices</td>
<td>Winter 2010</td>
</tr>
<tr>
<td></td>
<td>Tray Table Redesign</td>
<td>Fall 2009</td>
</tr>
<tr>
<td></td>
<td>Financial Services</td>
<td>Fall 2007 &amp; Winter 2008</td>
</tr>
<tr>
<td>Citi</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerator Design</td>
<td>Fall 2009</td>
</tr>
<tr>
<td></td>
<td>Stove Design</td>
<td>Spring 2009</td>
</tr>
<tr>
<td>LG</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PHASE 0
Before the project
During the planning stage of a project the member identifies the problem space and collaborates with the LWC on the project brief.

PHASE 1-3:
During the 15 week Semester
The research team focuses on obtaining knowledge about the topic, translates insights to concept ideas and tests and refines concepts to meet the needs of the member.

PHASE 4:
After the Project
Possible future opportunities regarding the project results for the member and LWC. This should also be discussed in Phase 0.
Phase Zero (begins a semester before project starts)

Develop a project brief:

1) Identify opportunity space
2) Define scope
3) What are the objectives?
4) What does success look like?
5) What are the key deliverables?

6) What skill sets needed from faculty and students?
7) What are consumer co-creation needs?
8) Who are constant and key players from sponsor?
9) Identify key presentation/interactions dates?
NIH Award - iTransition Studio
SUM Qtr 2013 (5/20/13 – 8/2/13)

Project Scope:
Follow-up on summer studio from last year with the goal of developing patient self-management tools to improve the transition from Pediatric to Adult Care in sickle cell disease.

Project Description:
LWC Executing Team 3 design grad students

Goals:
1. CCHMC team to obtain hands-on experience implementing the Live Well Collaborative’s design thinking model via participation in follow-up studio around the transition from pediatric to adult care for individuals living with sickle cell disease (SCD).
2. Develop patient self-management tools to improve treatment adherence (medications, clinic visits, tests/procedures, healthy lifestyle behaviors) for adolescents and young adults with SCD.
3. Understand the most effective ways to use these and existing self-management tools (e.g., web-based interventions, mobile interventions, etc.) to improve treatment adherence and transition readiness.
4. Prepare interventions/solutions developed for dissemination and evaluation.

Deliverables:
1. Interventions/Solutions to improve treatment adherence for adolescents and young adults with SCD.
2. Understanding of how and when patient self-management tools will be most beneficial for adolescents and young adults with SCD to improve their treatment adherence, health outcomes, and readiness for transition.
Phase Zero (begins a semester before project starts)

Develop a project brief:

1) Identify opportunity space
2) Define scope
3) What are the objectives?
4) What does success look like?
5) What are the key deliverables?

6) What skill sets needed from faculty and students?
7) What are consumer co-creation needs?
8) Who are constant and key players from sponsor?
9) Identify key presentation/interactions dates?
<table>
<thead>
<tr>
<th>Week #</th>
<th>Date</th>
<th>CCHMC Interaction</th>
<th>Student Interaction</th>
<th>Consumer Interaction</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20 May</td>
<td>Kick Off + Adherence + Design Thinking Presentation (8:00 – 10:00 @ Live Well)</td>
<td></td>
<td>Consumer Research (app: shadowing, 1:30pm @ CCHMC)</td>
<td>Phase 0</td>
</tr>
<tr>
<td>1</td>
<td>21 May</td>
<td></td>
<td></td>
<td>Consumer Research (app: shadowing, 2:00 pm @ CCHMC)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>22 May</td>
<td>Care Provider Expert Meeting – SCD Transition Team (11:00 – 12:00 @ CCHMC room D2.20)</td>
<td></td>
<td>Consumer Research (app: shadowing 2:30 pm @ CCHMC)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>23 May</td>
<td>Care Provider Expert Meeting – CCHMC Team Meeting (7:45 am @ CCHMC in A on the 1st floor, Meeting Room)</td>
<td></td>
<td>Consumer Research (GROUP) interviews 3:30pm @ CCHMC</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>28 May</td>
<td>Consumer Research (app: shadowing 2:30pm @ CCHMC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>30 May</td>
<td>Consumer Research (app: shadowing 2:30pm @ CCHMC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>31 May</td>
<td>Care Provider Expert Meeting – CCHMC Team Meeting (7:45 am @ CCHMC in A on the 1st floor, Meeting Room)</td>
<td></td>
<td></td>
<td>Phase 1</td>
</tr>
<tr>
<td>3</td>
<td>June 4</td>
<td>Consumer Research (appointment shadowing – 11:30am @ CCHMC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>June 6</td>
<td>Consumer Research (appointment shadowing – 11:30am @ CCHMC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>June 7</td>
<td>Consumer Research (appointment shadowing – 11:30am @ CCHMC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>June 11</td>
<td>Consumer Research (GROUP) interviews @ 3:30pm @ CCHMC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>June 13</td>
<td>Consumer Research (GROUP) interviews @ 3:30pm @ CCHMC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>June 14</td>
<td>Consumer Research (GROUP) interviews @ 3:30pm @ CCHMC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>June 18</td>
<td>Research Presentation (9:30 – 11:30 a.m.)</td>
<td>(Questions for care providers due)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>June 20</td>
<td>Care Provider Expert Meeting – SCD Transition Team Meeting (11:30 – 12:30 @ CCHMC D2.20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>June 21</td>
<td>Care Provider Expert Meeting – SCD Transition Team Meeting (11:30 – 12:30 @ CCHMC D2.20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>June 26</td>
<td>Weekly Update Meeting</td>
<td>Concept Development</td>
<td></td>
<td>Phase 2</td>
</tr>
<tr>
<td>6</td>
<td>June 27</td>
<td>Weekly Update Meeting</td>
<td>Concept Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>June 28</td>
<td>Weekly Update Meeting</td>
<td>Concept Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>July 2</td>
<td></td>
<td>Co-Creation Session (3:30 p.m. – 7:30 p.m.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>July 4</td>
<td>Concept Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>July 5</td>
<td>Concept Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>July 9</td>
<td>Concept Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 10</td>
<td>Initial Concept Presentation (8:30 – 10:00 a.m.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 12</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 16</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 19</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 22</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 23</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 25</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 26</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>July 30</td>
<td>Concept Refinement</td>
<td></td>
<td></td>
<td>Phase 3</td>
</tr>
<tr>
<td>11</td>
<td>August 1</td>
<td>Final Presentation – 8:30 a.m. @ CCHMC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>August 2</td>
<td>Final Presentation – 8:30 a.m. @ CCHMC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research (5 weeks)
- Focuses on knowledge about the topic
- Qualitative learning by interacting with all stakeholders thru meet & greets, clinical visits, in-homes, etc.
- Problem immersion. Witness the problem, live the problem.
- Framing and synthesizing research

Ideation (5 weeks)
- Use design thinking tools to translate insights into conceptual ideas (Translational Research)
- Product or process benchmarking
- Co-creation sessions with stakeholders

Refinement (5 weeks)
- Refining conceptual ideas.
- Testing ideas with stakeholders.
- Prototyping to meet the needs of the project sponsor, documenting process and handing off to sponsor.
Living in place with Alzheimer’s

**medmail**
A service system for managing medication for Alzheimer’s patients and their caregivers

The direct and indirect **costs** of Alzheimer’s and other dementias amount to more than **$148 billion annually**, which is more than the annual sales of any retailer in the world excluding Wal-Mart.

By 2030, an estimated **8.6 million people** will have **Alzheimer’s disease**.

---

-- Alzheimer’s Association, 2007
Research: Understanding the Opportunity

Alzheimer's Disease affects patients' cognitive abilities. There are currently five FDA-approved medications to relieve symptoms, for example: Aricept, Exelon, Razadyne, Cognex, Namenda.

A review of these medications should occur every three months.

Alzheimer's Disease affects both cognitive and behavioral conditions, and can take other medications for them.

The medications must be used carefully and are most effective when combined with non-drug approaches.

Aside from Alzheimer's Disease, there are other health conditions that affect elderly which require medication management.

Nutrition and vitamins management is also important.

Conclusion: The opportunity lies in developing one system solution that integrates all of the AD patients medication needs.

medmail Living in place with Alzheimer’s

A service system for managing medication for Alzheimer's patients and their caregivers
Picking-Up Medication

Stakeholders

Doctor & Pharmacist

Sorting

Caregiver & Patient

Distributing

Caregiver & Patient

Taking

Patient

Key Insights and Opportunities

- The growth of the 70+ age segment is an emerging medical challenge.
- There is not a cure for AD yet. All 5 FDA approved medications only slow down the progression of the disease.
- Most medication is taken twice a day in the AM and PM, while the caregiver is present with the patient.
- Patients rely on caregivers’ assistance with medication intake in all if not most cases.
- Some combinations of medications and supplements (vitamins & minerals) can be dangerous.
- There are cognitive and behavioral issues with patients.
- Most of the existing products ($700 is the most expensive) for dispensing medication are technology based with a move toward more complex technology and increased features. They assume that the caregiver or patient can adapt to such solutions.
- Assisted living costs an extra $750 to $2,200 per month for dementia patients.

The ideal situation for the caregiver and the patient is for the patient to stay at home, instead of moving to a health care facility. The longer the patient can stay home which is possible through medication compliance, the simpler it is to keep in touch with their family and the less money is spent on healthcare. Most importantly, the dignity and independence of the patient is also maintained.

medmail Living in place with Alzheimer’s
A service system for managing medication for Alzheimer’s patients and their caregivers
Conceptualization, Feedback and Refinement: Comprehensive Visualizations for Medicine Management Solutions

Concept **medmail** was identified as an ideal solution. The doctor prescribes, the pharmacy packages, and patient receives their customized medicine prescription.

**medmail** Living in place with Alzheimer’s
A service system for managing medication for Alzheimer’s patients and their caregivers
Final Concept Refinement: Voice of Consumers

“The simplifications it would bring to medication time would be invaluable.”

“Would make it much easier for me to take my medications.”

medmail  Living in place with Alzheimer’s
A service system for managing medication for Alzheimer’s patients and their caregivers
Final Concept Design: Voice of Consumers

“...this is easier to read...”

<table>
<thead>
<tr>
<th>medmail</th>
<th>medmail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>wednesday</strong> march 5</td>
<td><strong>wednesday</strong> march 5</td>
</tr>
<tr>
<td>Namenda alzheimer</td>
<td>Sonata sleeping aid</td>
</tr>
<tr>
<td>Fosamax osteoporosis</td>
<td>Simcor cholesterol</td>
</tr>
<tr>
<td>Prozac anti-depressant</td>
<td>Xanax filler text for med info</td>
</tr>
<tr>
<td>Razadyne alzheimer</td>
<td>Pull colored tab down</td>
</tr>
<tr>
<td>Orinase diabetes</td>
<td>Push pill out with thumb</td>
</tr>
</tbody>
</table>

Patient Information:
Matthew Beharry
622 Marvview Terrace
Cincinnati Ohio, 45231

Doctor Information:
Dr. R. Smithington
513.656.6555

“...now I know what my doctor prescribed...”

“..easier to remove my pills, one at a time, even with my arthritis...”

Concept Advantages

Ease of use
Reduction of stress
Medicine Compliance:
Allows patient staying at home longer
Increased communication between stakeholders
Streamlined prescription process

medmail Living in place with Alzheimer’s
A service system for managing medication for Alzheimer’s patients and their caregivers
Digital interface would link all stakeholders to a comprehensive system approach.

It's like Netflix for medicine!

The digital interface would serve as the vehicle for direct communication between the pharmacist, doctor, caregiver and patient. All stakeholders can check online specific information about the medications and track it much closer, along with many other opportunities. Also, a mail delivery service could serve as a potential partner for the solution, as well as other businesses who can contribute to streamline the process and delivery.

medmail Living in place with Alzheimer’s
A service system for managing medication for Alzheimer’s patients and their caregivers
Boeing – Travel Experience

The Live Well Collaborative
+
Boeing
Go to www.livewellcollaborative.org case studies tab to see video (too large of a file to include)
Live Well Collaborative
Singapore Polytechnic
Left to Right:
Maniya Ongpauco, Keith Tan Yong Tze, Roy Ang Chong Wei, Muhammad Halim Bin Ab Wahab, Chow Kim Nam, Goh Siak Koon, Choo Keng Hui, Ken, Cheryl Wee Soon Peng, Claire Ng Huiting, Jaichandar KS

Absent with Apologies:
Ariel Heng

© Live Well Collaborative
Independent Research Innovation Center

Focused on revolutionizing product design and development for consumers aged 50 and above in the Asian market.

- Currently, **more than half of the older population in the world lives in Asia** (54 percent). In the next decade, the over-50 population will total almost one billion across the Asia Pacific, and mature consumers are estimated to spend $1.5 trillion per year by 2015.

- The LWC-S, led by Singapore Polytechnic in close collaboration with the LWC-C, will conduct early phase product research with a particular focus on design for member companies looking to target the over-50 consumer. It will follow the interdisciplinary approach of the LWC-C and leverage Singapore Polytechnic’s strengths in Design, Engineering, and other disciplines to re-think the design of products to meet the changing lifestyle and physical needs of this target group.
How do I get started??????

1. CCTST Website
   Design Thinking Research Awards Grant Application
   http://cctst.uc.edu/funding

2. CCTST is sponsoring a $10,000 award to compliment your funding.

3. Studio models are funded based on project deliverables.
   - Projects range from $29,000 to $78,000
   - Funding supports participation from UC faculty, graduate, and co-op students, as well as supplies/materials needed

4. Project Scheduling based on UC’s semester schedule
   - Act quickly for fall project start Aug 26th, Application due 7/15
   - Spring Semester: LOI due 8/5 Start date 1/6/2014
   - Summer Semester: LOI due 11/1 Start date 5/6/2014
WE KEEP GREAT COMPANY

Find out more about how you can join us:

Linda Dunseath
LWC Executive Director
ldunseath@livewellcollaborative.org

Our website:
www.livewellcollaborative.org