Team 378- Dream Face

Mohammad H. Mahoor, PhD
Principal Investigator
Expertise: Computer vision and Social Robotics

Ali Mollahosseini
Entrepreneurial Lead
PhD Candidate with emphasis on Machine Learning and Robotics

Ron Cole, PhD
Mentor
Expertise: Over 40 years of Academic and Industrial expertise in developing Spoken Dialog Systems

Ryan: An Emotive Lifelike Social Robot for Face-to-Face Communication

Customer Interviews:
Total: 102 (3 via phone and 5 via Skype)
Ryan: the Face of the Dream Face Team!

Ryan’s Features

- Animation-Based Robot
- Spoken Dialog
- Multilingual
- Expressive and Emotive
- Facial Affect Recognition
What we thought…(Canvas, Version 1)

- Ryan is a cool robot and everybody would buy it!

<table>
<thead>
<tr>
<th>Value Propositions</th>
<th>Customer Relationships</th>
<th>Customer Segments</th>
</tr>
</thead>
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<tr>
<td>Emotive &amp; Engaging Agent can improve learning and ...</td>
<td></td>
<td>School directors</td>
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<tr>
<td>Customizable appearance &amp; voice can make a difference</td>
<td></td>
<td>Tharpists (Language, Autism, etc)</td>
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<tr>
<td>Social robots are accepted similarly to teachers or ...</td>
<td></td>
<td>Special education school directors</td>
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<tr>
<td>Does Physical Embodiment add any value to a ...</td>
<td></td>
<td>Visitor center / museum managers</td>
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<td>Can provide Concierge/knowledgeable receptionist</td>
<td></td>
<td>Coffeehouse, Restaurant &amp; Hotels managers</td>
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<tr>
<td>Social robots can provide individualized instruction</td>
<td></td>
<td>parents</td>
</tr>
<tr>
<td>Would a Multi-lingual Agent help serve a bigger group</td>
<td></td>
<td>Research Labs PIs</td>
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Channels

- Direct Sell (DreamFaceTech.com)
102 Customer Locations!
Who We Talked To

- Hotels: 9
- Museums: 8
- Schools (Gen and Special Eds): 25
- Parents: 13
- Lang. & ABA Therapists: 10
- Assisted Living Facilities: 37
What we learned in the first few weeks!

- Hotels are lazy in adopting new technology!
- Ryan would not add any values to their business services.
- They had sticker shock with the price ($5000)!
What we learned in the first few Weeks (Cont’d)

- Principals and teachers thought Ryan would be great!
- The buying cycle is very long.
- The school districts are the decision makers.
- Positive feedback!
- Too many types of disabilities, all requiring different development!
Directors and nurses of assisted living facilities were uniformly positive and excited about having Ryan in their facility!
Lesson Learned about Assisted Living Facilities!

- Ryan can increase longevity and happiness of elderly!
- Coach exercise, read news, have daily conversations, remind them take their medication!
Colorado Health Care Association

- Represents 180 nursing facilities and ~40 assisted living facilities
  - Aware of Paro robot

- They are willing to partner up
  - Bi-monthly assisted living committee meeting
  - Promote this in their website

- Personalized Features!

Paro, Developed in Japan, $5,218
Final Business Model Canvas

Key Partners
- BLT
- DU research Labs
- Domain Experts: Physicians & Genomics
- Colorado Healthcare Association

Key Activities
- Develop Ryan: software system & Mechatronics
- Show proof of concept (Pilot Study)
- Marketing

Value Propositions
- Emotionally Engaging Agent can improve learning and therapy
- Customizable appearance & voice can make a difference in engaging
- Social robots are accepted similarly to teachers or clinicians in...
- Does Physical Embodiment add any value to a screen-based...
- Robots can be used as companions
- Social Robots increase the happiness and longevity of elderly...

Customer Relationships
- Paid awareness: printed Add, Public relation
- Non Paid Awareness: Conference, Journal Papers
- Keep: Maintenance, Free Training
- Grow: bundles, Personalized features for individuals

Channels
- Direct Sell (DreamFaceTech.com)
- Salesperson

Customer Segments
- Directors of Assisted Living Facility (Decision Maker/Influencer)
- Residence of Assisted Living Facility (End User)
- Director of Special Ed Segment in School Districts

Key Resources
- HR: Two Software Engineers: $200K
- HR: Mechanical Engineers, $75K
- HR: Executive director, $100K
- Machine Shop: outsource, $30K

Cost Structure
- HW (only head=$1100, Torso=$500, Embedded PC=$500) per unit
- BLT avatar license=$300 per unit
- Affective license=$300 per unit
- DU robotic license=$300 per unit

Revenue Streams
- direct sell
- Personalized feature (each individual can purchase additional features/program at additional cost)

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Value Propositions

**Value Propositions**
- Customizable appearance & voice can make a difference in
- Does Physical Embodiment add any value to a screen-based
- Robots can be used as companions
- Social Robots can help caregivers to increase the

**Customer Relationships**
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**Customer Segments**
- Directors of Assisted Living Facility (Decision Maker/Payer)
- Residence of Assisted Living Facility (End User)

**Channels**
- Direct Sell (DreamFaceTech.com)
- Salesperson
Customer Archetype

- **Influencers:**
  - Alzheimer’s Association
  - Colorado Health Care Associations

- **Decision Makers/Payers:**
  - Directors & Managers of ALFs

- **Recommenders:**
  - Nurses

- **End Users:**
  - Elderly Residences of ALF
Market Size

- ~45 million elderly individuals (aged 65+) live in the US!
- Total Available Market: $225 Billion (45M * $5K)
- ~1 million Americans live in Assisted Living Facilities (ALFs).
- ALFs residences; Served Available Market: ~$5 Billion (1M * $5K)
- ~31,000 ALFs in the US and assuming they buy one Ryan: Target Market Size is about $155M!

**Key Partners**

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- DU research Labs
- Domain Experts: Physicians & Geriatrics
- Colorado Health care association

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- DU robotic licence=$300 per unit
- Total Key Resources per year=$680K

Revenue Streams

- Direct sell
- Personalized feature (each individual can purchase additional features/program at
What is next?

1. Optimize prototype design
   - Obtain funding (SBIR, STTR)
   - Define specifications for MVP
   - Establish Dream Face Technologies, LLC

2. Increase awareness

3. Cultivate key partners