Assessing Worksite Assistive Technology Needs

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& DisabilityWorkTools.com
Human Activity Assistive Technology Model (HAAT)

Human Activity Assistive Technology Model (HAAT)

- Model to identify appropriate assistive technology (AT)
- Accounts for the human, the context and the activities
- AT is any item or product system used to improve or maintain capabilities of an individual with a disability
Human Activity Assistive Technology Model (HAAT)

Human considerations:
- physical
- emotional
- cognitive
Human Activity Assistive Technology Model (HAAT)

CONTEXT

Environment: extreme temps, exposure to elements, dust, humidity, rough terrain

Social: family, employees, finances

Culture: work expected, farm is identity, food safety
HAAT Context

Working alone or in community garden setting for retail and personal use.

List 3 observations of this context.
HAAT Context

Greenhouse/hoophouse production. List 3 observations of this context.
HAAT Context

Market farm – wholesale and retail produce.
List 3 observations of this context.
Human Activity Assistive Technology Model (HAAT)

- Activity
  - Hundreds of yearly activities
  - How do we prioritize?
    - Remember the person
    - Remember the context
HAAT Activity

• Fill flats, seeding, watering, light adjustment, pot filling, transplanting, carrying pots, tillage, mulch, weeding, irrigation, spraying, cultivating, pruning, harvest, washing, packaging, transporting, sales, book keeping, field clean up
HAAT Activity

• Prioritize
  – How frequent is the task?
  – Do you like to do it?
  – Could other workers do the task?
  – Is it financially important?
  – How easy is it to accommodate?
## I. Personal Data

### A. INTAKE INFORMATION

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<th>Name &amp; Mailing Address</th>
<th>County:</th>
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<td>Phone:</td>
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<td>E-mail:</td>
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<thead>
<tr>
<th>New Case?</th>
<th>On-site Survey by:</th>
<th>Contact Date:</th>
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<th>Sex:</th>
<th>DOB:</th>
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<tr>
<th>Marital status:</th>
<th>Name of spouse:</th>
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Ages of children at home:

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<tr>
<th>Work Status:</th>
<th>Full time? Part time? Start-up? Retired?</th>
<th>Type of Agriculture:</th>
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Farm Business Description:

Report intro and business type paragraph(s).

Physical Limitations:

Report physical limitations paragraph(s).

Directions to farm/ranch:
### B. About client’s disability

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<tr>
<td>31</td>
<td>B. About client’s disability</td>
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<td>Date of injury/diagnosis:</td>
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<td>33</td>
<td>1. Type of disability:</td>
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<td>2. Describe cause of disability/limitations:</td>
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<td>36</td>
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<td>Report physical limitations paragraph(s).</td>
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<td>3. List any secondary disabilities:</td>
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<td>4. Physical limitations - OT, PT &amp; Med evaluations/restrictions:</td>
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<td>41</td>
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<td>What body parts hurt when you work? Does it hurt all the time?</td>
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<td>43</td>
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<td>Do you have a rehab or medical professional working on your limitations? Do you have a professional evaluation report describing your limitations, diagnosis, prognosis and treatment plan? (Include exact measurements if known - e.g., Db of hearing loss; visual acuity; lifting limits; wrist/arm/leg range of motion, strength (arm, grip, leg), lift restrictions...) Can we see it?</td>
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<td>Has a medical professional told you to not do certain tasks for health or safety reasons?</td>
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<td>5. Functional limitations as described by client and/or referral source.</td>
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<td>48</td>
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<td>Report text physical limitations: Generally, mobility, walking long distances, climbing, standing, standing up, stooping, bending, crawling, lifting, carrying, pushing, pulling, twisting, range of motion, reaching, grasping, repetition, fine motor control, long duration tasks, operating equipment, decision making, reading, peripheral vision, hearing, reaction time, breathing, balance, memory, personal care and temperature control are limited. Specifically,</td>
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<td>50</td>
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<td>6. Health insurance? SSDI? Worker’s Comp?:</td>
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### C. Rehabilitation Services

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<tbody>
<tr>
<td>52</td>
<td>MRS, ESM, Independent Living, VA, Migrant health, OT/PT:</td>
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<td>55</td>
<td>Contact name &amp; mailing address:</td>
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<td>57</td>
<td>Phone:</td>
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<td>58</td>
<td>E-mail:</td>
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<td>59</td>
<td>Notes:</td>
</tr>
</tbody>
</table>
## II. Caregivers

### A. Who are the primary caregivers who assist the client personally?

<table>
<thead>
<tr>
<th>Name:</th>
<th>Relationship/Age &amp; Responsibilities</th>
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</table>

### B. What are the most pressing needs for the caregiver’s sake?
- Home accessibility?
- Personal attendant issues?
- Family adjustments?
- Respite?
- Household tasks?
- Farm chores?
- Farm accommodations?

### C. What new tasks has the caregiver undertaken since the disability?

Describe new roles and resulting challenges. How do you deal with role reversals? Can the caregiver and client communicate about such challenges?

### D. Are there back-up or respite caregivers available?

Describe how the caregiver finds respite.

### E. Who can the caregiver call for help?

- Is it difficult or easy to ask for help?
- What are the barriers?
- No-one to ask?
- Pride?
- Fear?

## III. General Farm/Ranch Data

### A. Type and size of operation:

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Crops</th>
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<tbody>
<tr>
<td>Dairy/head</td>
<td>Corn/ acres</td>
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<tr>
<td>Hogs/head</td>
<td>Soybeans/ acres</td>
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<tr>
<td>Beef/head</td>
<td>Wheat/ acres</td>
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<td>Sheep/head</td>
<td>Hay/ acres</td>
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<tr>
<td>Poultry/head</td>
<td>Specialty/ acres</td>
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<tr>
<td>Other/ head</td>
<td>Other Ag business</td>
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**Notes:**

More report text describing farm operations in general.

### B. Client’s farm responsibilities prior to the disabling injury or disability:
IV. Overall Farm/Ranch Accessibility

A. Is the house accessible with independent access to primary rooms?

B. General terrain & mobility issues. Are areas around buildings surfaced?
   Describe terrain, type of surface and mobility-related problems encountered:

C. Are farmstead buildings spread out or compact?
   What is the distance between the house and primary farm buildings?

D. What does the client use for outdoor mobility?
   cane, walker, wheelchair, power wheelchair, scooter, ATV, utility ATV, pickup truck, lawnmower

E. Most frequently used farm vehicles (truck, car, utility vehicle, etc…)

<table>
<thead>
<tr>
<th>Make/Model</th>
<th>Common uses, condition &amp; barriers to access</th>
<th>Year</th>
<th>Automatic?</th>
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V. General Farm Maintenance

A. The farm shop

1. Can client enter the shop independently? does not apply
   Describe any barriers (e.g., steps, narrow doorway, heavy door) encountered:

2. Type of floor the shop has and any mobility-related problems encountered:
   (e.g., concrete, dirt, crushed stone)

3. Can client reach stationary power tools and service equipment? Climb ladders?

4. Can client perform maintenance tasks on a tool bench? Sitting down?

5. Is the shop:
   heated for year-round use?
   equipped with toilet facilities?
   adequately lighted?
### B. Basic hand tools

1. Which hand tools does the client have difficulty using? Describe problems.
   - Sockets and ratchet; wrench, hammer, screwdriver, pliers, punch/chisel, file, knife, hand saw, fence stretcher, tap and die, pry bar, grease gun, vise, C-clamp, rake, shovel, pruning tools, etc.
   - Problems:

### C. Power tools

1. Which power tools does the client have difficulty using? Describe problems.
   - Power saw, impact wrench, drill, angle grinder, bench grinder, air tools, chainsaw, welder, cordless tools, etc.
   - Problems:

### D. Maintenance materials and supplies

Which maintenance items does the client have difficulty using? Describe problems.
- Nuts and bolts, nails/screws/staples, spray solvents, lumber, glue, wire, paint and brushes, sandpaper, welding rod, lubricants, chains, belts, etc.
- Problems:

### VI. Equipment and Machinery

#### A. Machinery storage areas

1. Describe primary machinery storage areas:
   - (e.g., enclosed, open-shed, outdoors)

2. Can client enter machinery storage areas independently?

3. Describe types of floors the machinery storage areas have and any mobility-related problems encountered:
   - (e.g., concrete, dirt, sand, crushed stone)

4. Do the storage areas provide adequate space for the frequently used equipment?
   - If no, how and where is the other equipment stored?

5. Are the storage areas conducive to hitching implements and performing service maintenance tasks on equipment?
   - If no, where are these tasks performed?
C. Accessing equipment

1. Describe any difficulties or potential safety hazard client faces when mounting (e.g., maneuvering steps, opening cab doors, access to seat), and any modifications that have been made:

<table>
<thead>
<tr>
<th>Make/Model</th>
<th>Step/Platform Ht.</th>
<th>Problems/modifications</th>
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D. Equipment seating and operator station

1. Describe any difficulties related to equipment seating and transferring to the seat. Describe modifications for comfort and safety during operation and transfer.

<table>
<thead>
<tr>
<th>Make/Model</th>
<th>Seating</th>
<th>Problems/modifications</th>
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E. Controls

1. For the self-propelled units the client uses most frequently, indicate which controls are difficult to reach or operate, describe specific problems, and identify and modifications that have been made.

   a. Control | Difficulties and modifications
              | Steering
              | Clutch
              | Brakes
              | Throttle (hand or foot)
              | Ignition/accessory switches
              | Gear shift lever
              | Three-point hitch lever
              | Power take-off control
              | Hydraulic remotes/levers
              | Differential lock


### VII. Crop Production

#### A. Forages  
*does not apply*

#### B. Grain  
*does not apply*

#### C. Vegetable and Fruit crops

1. What vegetable and fruit crops are raised and how many acres?

2. Can client access production fields independently?

3. Types of weed & pest control methods used (e.g., hand weeding, plastic cultivation, flaming, herbicides):

   Barriers to weed & pest control access:

4. Planting and Harvest methods (e.g., mechanical, manual labor and/or hired laborers, harvest carts, crawling):

   Barriers to planting/harvest tasks:

5. Marketing methods and equipment used (on-farm sales, wholesale packing/shipping, packing line equipment, farmers markets, transportation):

   Barriers to sales, marketing, packing and shipping tasks:

#### D. Additional Crop Details  
*does not apply*

1. List specific crop-related barriers or other major crops produced, and describe any accessibility problems in handling or storing:

<table>
<thead>
<tr>
<th>Crop:</th>
<th>Problems:</th>
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X. Orchards/Woodlots/Gardens

A. Orchards  *does not apply*

1. Describe the layout and the contribution orchard makes to overall farm/ranch operation (e.g., family use, commercial production, roadside market):

2. Which tasks does the client have difficulty performing? Describe problems.
   Mowing, Spraying, Pruning, Harvesting, Processing, Transport, Other

   Problems:

B. Woodlots  *does not apply*

1. Describe layout and the contribution woodlot makes to overall farm/ranch:

2. Which tasks does the client have difficulty performing? Describe problems.
   Cut, split, transport and stack firewood, plant trees, trim trees, scout timber

   Problems:

C. Home, Lawn and Garden  *does not apply*

1. How do you manage snow removal around the driveway, sidewalks and farm?
   Tractor blade, pickup truck, snowblower?

2. Describe layout and the contribution lawn/garden makes to overall farm/ranch operation (e.g., family use, U-pick, commercial production, roadside market):

3. Note problems client encounters in completing lawn/garden tasks (e.g., soil preparation, spraying, cultivating, harvesting, processing, mowing):

   Problems:
XI. Farm Management

A. Is client currently responsible for maintaining farm/ranch business records?
   1. Will he/she be able to continue to do so?
   2. If no, who will do it?

B. Are farm/ranch business records computerized?
   1. What type of system is being used?
   2. Is computerization being considered?

C. Who is responsible for most of the sales and purchases related to the farm? How do you market your products? Problems?

D. Who is responsible for labor management (i.e., finding, hiring, training, supervising workers)?

E. Does the business generate a living wage?
   Cash flow - 3 years
   Cash flow before – income less expenses, depreciation costs, interest costs, labor costs – did you make a living at this before?
   Cash flow after – income less expenses, depreciation costs, interest costs, labor costs

   Report text on business viability. New expenses – medical, AT, employees doing more work, more custom hire expenses

   Reduced business opportunity – months of lost marketing opportunity while recovering; new expenses eat up cash that would be for expansions, investments, new ventures, partnerships; unable to go into other farmers’ barns or homes for meetings, discussions, sales calls
XII. Additional Vocational Training

A. Client's prior and current off-farm employment and experiences, and approximate date.

1
2

B. Client's military service (including technical training received) and approximate date

C. Client's leadership skills and experience.
   1. Organization/civic involvements

D. Describe client's vocational interests other than farming.
   Do you like farming and want to continue? Do you have another job too? Do you have training to do a different job? Do you want to learn another trade instead?

E. Education
   1. Highest high school grade level client completed:
   2. List any education and/or training client received after high school:

XIII. Establishing Primary Goals

Consider:  a) frequency of task  b) importance of task  c) cost to accommodate

A. Have client prioritize these goal areas concerning worksite accessibility (1 = highest priority):

   Improve overall mobility or accessibility around farmyard, buildings, and fields.

   Improve livestock handling abilities related to feeding methods, health-care needs, waste removal, and building sanitation.

   Improve ability to effectively use equipment and machinery, including accessing, operating, and maintaining equipment.

   Improve ability to perform general maintenance activities, including effective use of tools, and maintenance materials.

   Improve ability to manage operation, including maintenance of business records, sales and purchases, and labor management.

   Identify an alternative enterprise that would suit goals and abilities.
**Human Activity Assistive Technology Model (HAAT)**

FINALLY! THE ASSISTIVE TECHNOLOGY.

<table>
<thead>
<tr>
<th>Proposed accommodation to adapt this Activity/Situation/Equipment.</th>
<th>Estimated cost to adapt. Who can pay? How much?</th>
<th>Uses per year?</th>
<th>Is it important for YOU to do this activity? Why?</th>
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Assessing Worksite Assistive Technology Needs

- Person
- Context
- Activity

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Easterseals Michigan AgrAbility
& DisabilityWorkTools.com