

Ideation Project for Parent-Child Contact in Work Separated Families

Amy Lu

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Based on research provided:

- 1. Generate 100 numbered ideas to support parents and children separated by work
- 2. Select 5 ideas with a written scenario, sketch, or both.

1.

Child wearing an artifact device that lets the child communicate to the parent
2.

Child-sized phone booth that lets child call parent without needing a cellphone
3.

Tree house for children to enact on a mission to contact parent. Increase motivation for child
4.

Top to bottom wall-screen projector that displays 180-degree view of the home interior so to create an illusion of being together.
5.

Write letters and put in mailbox. The colocated parent will send it out.
6.

Recording voice memos on a microphone and sending it to remote parent.
7.

Kids draw pictures on desk tablet and email the picture to the parent
8.

Calendar device that lets child tap the date that he/she wants to talk to parent, and schedule a synchronous meeting
9.

Wearing of a headphone with a small microphone with a gesture input device lets the child role-play as an operator calling for parent.
10.

Walkie-talkie device
11.

Parent video taps child’s wireless pointer device, child accepts the invitation and projects/plays the inte action onto a plain background.
12.

Child, colocated parent and remote parent live stream their dinners in front of each other. Catch up on each other’s lives just like when they were together.
13.

Situate the video chat against a wall with hanging curtain. Alert sounds such as voice calling from the remote parent sends signal to child and colocated parent, they open the curtain and see the remote parent.
14.

Pressing of a button to signal that the child wishes to speak to the parent. Parent receives the signal and calls child
15.

Bedtime story. Room is full of glow stars, and remote parent’s voice calms the child and gives the child a bedtime story. Voice gently fades.
16.

Voice activated lamp that lets child call parent and then project their faces onto the wall.
17.

Desk with built in screen that lifts up, becomes a video chat device.
18.

Picture of parent can also become a video chat interface
19.

Virtual reality glasses lets child immerse in remote parent’s location
20.

Child connects to parent through a toy given by the parent. Child can connect to parent by pressing a button, and hearing parent’s voice.
21.

Gesture input via the wall, lets children play and interact with remote parent
22.

Drones that carry secret messages to remote parent
23.

Car ride that lets child talk to parent, transport conversation to outside not just at home
24.

Remote parent writes secret messages, which are hidden in different parts of the house, lets child interact with remote parent.
25.

Interactive map that lets child and remote parent choose any location on the map they would like to vacation to once the remote parent comes home, VR technology immerses them in the location and gives a glimpse of the surrounding.
26.

App lets remote parent send gifts such as toys, souvenirs, post cards, and food to child, and remind them that there are 10 days until the parent is back
27.

Black board lets child write/draw/play to share with remote parent. Technology sends the inform tion to remote parent. Remote parent’s message displays on the blackboard.
28.

The world map lets child learn where the remote parent travels to, the child can click on the country city the remote parent is at, and see what the remote parent is doing. There is a camera installed at remote parent’s home that lets the child see what the remote parent is doing.
29.

Child wears a watch that reminds the child how many days until remote parent comes home. Watch can also send messages to remote parent.
30.

Video chatting with remote parent is like watching TV. Child turns on TV and switches to the video- chat channel to see the remote parent
31.

In infrastructure-poor environments, child can write postcards. Collocated adult scans this using an app and sends it to the remote parent.
32.

Child wears a sensor that lets child share emotions with remote parent. Remote parent keeps up with child day-to-day.
33.

Robot friend is voice rendered to resemble remote parent. It is situated at the home, asks child questions and engages with child. Remote parent can see how the child is doing through the eyes of the robot.
34.

Remote parent keeps an electronic diary at home. Child has access to the diary and reads whenever there is a new message.
35.

Child wears glasses that can take pictures and selfies and send to remote parent.
36.

A tent is situated in the home with built-in cameras that allows remote parent to see and speak to child.
37.

A puzzle game is installed in child’s home that lets child solve puzzles with the help of the remote parent.
38.

Memory jar lets child share memories or activities he wants to do with the remote parent. Collocat- ed adult sends the memories to remote parent.
39.

Time machine. Lets child travel through time to meet their remote parent. Remote parent takes a 360-degree photo of his surrounding and sends it to child. Child goes into the time machine and feels as if he were in his remote parent’s location.
40.

Child wears a backpack with embedded sensors that can record his emotions through the day and sends it to remote parent.
41.

A voice-recording pen lets child record voice messages and sends them to remote parent.
42.

Child has a portable video recorder that lets child record short video clips and send to remote parent.
43.

A Rubik’s type of toy that lets child press buttons to call remote parent. Red means video chat, green means send a voice recorder, yellow means send a photo. If a child solves the Rubik’s cube, a surprise

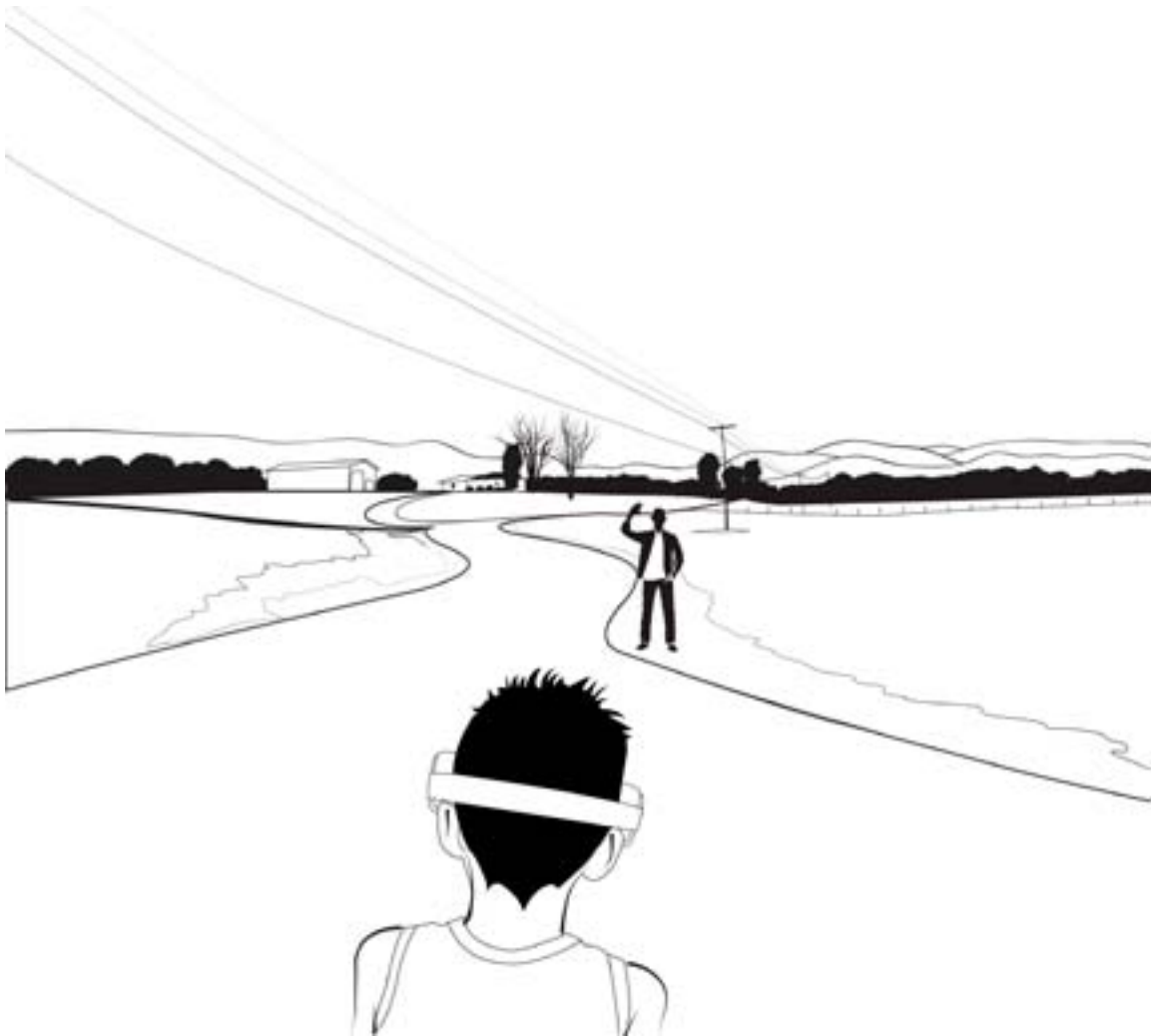
- will be revealed.
44. Time machine vacuum that lets child dispenses messages and artifacts into the time machine. The messages become encrypted through email and sends to the remote parent. Remote parent receives the messages and sends them back through the time machine.
 45. Mailbox that sends electronic messages through a touch screen pad.
 46. *3D-printer lets child receive objects sent from remote parent*
 47. Polaroid camera lets child send photos and videos to remote parent.
 48. *A easel type like screen lets child draw and send to parents*
 49. Karaoke machine lets child and remote parent sing together
 50. Moviemaker lets child and remote parent engage in a short film together by dubbing a movie they all like to watch.
 51. A device with an expand screen lets child video chat with parent while drawing something to send to parent.
 52. *Send difficult homework problems to remote parent via homework helper engages remote parent in child's school activities.*
 53. Motorcycle ride inside the house lets child "arrive" at the location designated to video chat with remote parent.
 54. Child wears a helmet with voice and audio recorder allows child to communicate to remote parent wherever he goes.
 55. Desk with multiple microphones and a screen, lets each child communicate to remote parent
 56. A long device with input code lets child key in ideas/thoughts to remote parent. Each click of a button represents a certain emotion.
 57. A pullout drawer lets child write to parent, closing the drawer sends the message
 58. Engaging interactive box lets child push certain buttons to call, to see, and to type.
 59. DDR type of machine that lets child use body motions to activate communication to remote parent.
 60. Using a dial up phone, child dials the number to remote parent's phone, and when connected, the image of parent is shown.
 61. Using voice recognition, parent/child can activate video chat to communicate to remote parent.
 62. Automatic video chat system calls remote parent in a designated time every week. Saves parent and child effort to set up.
 63. Phone app lets parent and child video chat
 64. Synchronous drawing system that lets parent see as child is drawing or writing, so parent can help with homework.
 65. Screen with microphone lets child call remote parent.
 66. A board game such as tic-tac-toe that can only be played when child is connected to remote parent.
 67. Game called alphabet blocks gives child the ability to form words on the screen then sends it to remote parent.
 68. Playing hangman with remote parent.
 69. Traveling robot on wheels with the screen at the top allows parent child to video chat
 70. A game deck of interactive cards lets child draw a card and follow the instruction on the card to interact with remote parent. They can video-chat, call, or send messages.
 71. LED sensor mirror flashes light to signal incoming call.
 72. Video project through 3d hologram
 73. Treasure hunt clues from screen tells child where the secret messages are.
 74. Playing a xylophone to code words to remote parent, and send a music clip to them
 75. Community telecommunications center where homes that don't have computers can book a room and video chat with child or remote parent.
 76. Child swipes card home, signal is sent to remote parent, who then can initiate video chat
 77. Screen with remote and wireless keyboard that lets you browse tv, click to video chat, call, or send emails/photos/audio messages.
 78. Object that has pre-recorded messages by remote parent or child, whenever child wants to communicate but the remote parent is away, they can ask a question, and the object would play the pre-recorded message.
 79. Fax machine that allows instant transfer of information
 80. Instant messaging app that lets you see if the remote parent is online
 81. App that lets remote parent and child post statues of their whereabouts, kind of like a calendar, they can then initiate video chat meetings.
 82. Create family group chat that allows for status updates, child and parent to post stories about themselves, initiate meetings, create/plan upcoming trips, this is not just limited to work-separated events.
 83. Recording app that records what family is doing and they can choose to whether or not to send it to remote parent. Sort of liking creating a movie of their daily life, vlogging
 84. 3d glasses lets child and remote parent see each other 3d
 85. AI mirror that has weather information, can also receive and make calls, and can become a screen.
 86. As child and collocated parent watch tv, phone call ringing will pop up on tv, just in case they didn't hear the ring tone, and helps to facilitate communication effectively
 87. Workplace that facilitates time with family as part of the day for remote parents. Each remote parent can sign up for a time slot to spend time with family during work day
 88. An object that can be flipped to see the parent or flip back to end the call
 89. An object that child can take to anywhere, can be used for school, and can also be used to talk to remote parent. Maybe its part of an ecosystem where the main device is at home, and each child carries a drone of the device as gps trackers; the main device is at the remote parent's place and can monitor action on the drones. Maybe the device is a watch.
 90. In cases of military families, where remote parent cannot video-chat, the remote parent can record interesting video clips and send to children.
 91. An engaging chest of drawers where each drawer contains a new piece of information about the child or remote parent. Maybe 6 drawers, one drawer has video, one drawer has sound, one drawer has bedtime story, etc.
 92. When remote parent serving in military has no access to personal computer, they can insert a USB or chip into the work computer that lets them communicate to kids without the hassle of logging into accounts on a public computer.
 93. A personalized video service system that lets a videographer document the day of the remote parent to send to child and collocated adult. This is asynchronous communication.
 94. Remote parent sends child something for child to engage and then sends the object back to him. They engage in this project until remote parent comes back.
 95. Send 360 degree video or photo that child or remote parent can interact with, adding a flower or a heart in the photo
 96. Classroom monitoring lets remote parent see how child is doing in school. Teachers can coordinate with remote parent to update on child's daily activities and studies
 97. Community center for the work-separated families that allows facilities to communicate. Pay a service fee, helps child with homework, and provides after school care, and facilitates communication with remote parent.
 98. *Military remote parents all sign up for service created through work that provides video chat device to families.*
 99. Phone truck that comes to community providing telecommunication service to families without access to smart phones
 100. Mobile service provider gives special plan and service to families with work-separated parents.

1. Designing for synchronous communication with multiple children

Current Practice: Video chat

- Most widely used and supports participation by multiple individuals.
- Requires a dedicated time and place for the interaction.
- Sometimes families would use phone more than video chat because it supports multitasking
- Needs one knowledgeable user at each location who is willing to deal with set up overhead
- Requires necessary infrastructure such as computer or a reliable Internet connection

Proposals:



Virtual Reality Headset

Utilizing Virtual Reality headset, child and parent can see each other in any destination they choose and interact with each other while traveling throughout the city. This interaction requires more extensive set up and is more expensive, which makes it ideal for longer-term separations than shorter-term. Both parties need to acquire anVR headset with built-in headphones, mic, and movement sensor.



TV Voice Assistant

The family has a hard time video chatting with Dad because the computer monitor is small, and in order to talk to Dad, only one child can sit in front of the computer at a time. Mom has to deal with setting up the video chat by logging in and ensuring camera and audio are working. By building the video chat feature into the TV, children can all sit in front of one large screen and talk to Dad; positive synergy is created. By embedding voice recognition, it alerts the family of an incoming video call from the remote parent. The family no longer needs to go online first in order to receive the call, they simply respond to the incoming call. To make video calls to the remote parent, parent or child simply speaks to the voice assistant on TV. This interaction is easy to set up, doesn't require login account or a computer. Since it is built into an already existing artifact, as part of a multitasking device, it is ideal and recommended in the research.

2. Designing for direct asynchronous communication between the parent and child

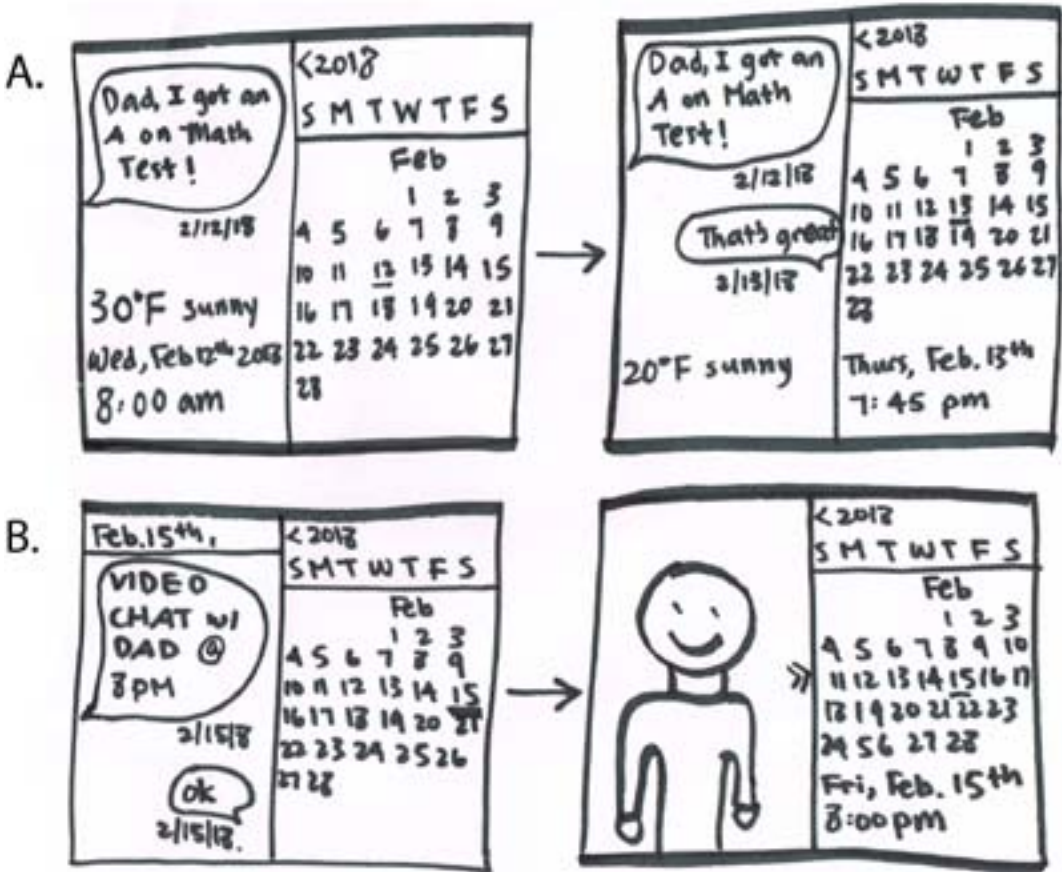
Current Practice: Phone/Mail

- Unlike their parents, children often do not seek out communication but rather focus on managing separation by spending more time with a collocated adult.
- Asynchronous communication is often targeted directly to the child.
- Parents mentioned that sending a message just to the child is a way of making him or her feel special.
- Though cell phones currently fulfill this functionality for older children, mail is often the only available form of asynchronous contact with younger children.
- In designing for asynchronous communication, it is important to provide opportunities for color, images, and animations.



Robot Friend

To facilitate asynchronous communication between parent and younger children and motivate child to actively seek out contact, the experience is created around child’s motivation for fun and play. Robot friend is equipped with mobile technology to allow it to function like a cellphone. Parent can leave voice messages. Through the eyes of the robot, remote parent can see the child. Robot Friend is the physical gateway to the remote parent; it reminds the child that his parent is not far away. For younger children who are not allowed to have cell-phones, this would function as a toy with encompassing cellphone attributes.



Interactive Memo Board

Interactive memo board lets family members leave messages on screen and display them as they are received. It is a social computing device that allows for interactions to happen when individuals are in different places and from different time zones. Just like a physical memo board, this interactive memo board allows for children to write/send messages to remote parent. The messages would display onscreen. Children can also choose to set up video chats with remote parent via this device.

3. Designing for infrastructure-poor environments

Current Practice: Email

- Video Chat is often denied to this group
- These families have found creative ways of appropriating communication technologies that are otherwise not very child-friendly, such as email.
- There is a clear opportunity to provide expressive, low-bandwidth means of communication for these families.



Family Activity Sharing

Company onboard a new program to support employees’ family wellbeing through facilitating and promoting contact between parent and child. This program allows employee to initiate contact with family through company-provided telecommunications assistance. The telecommunications assistance provides each remote employee with a smart watch and a smart tablet, with a pre-installed app called Family Activity Sharing. Remote employee utilizes the smart watch to stay updated about what is happening at home, receiving notifications wherever he goes. A tablet is provided to the family to include video/phone calls, texting, interactive games, and a smart calendar to schedule video chats.