

Overall Observations and Ideas

Kitchen

- P1: mounted on wall close to Table: reaches 3 Surfaces
 - Table: 40cm; for news and social media; touch input.
 - space on table is needed. therefore only usable when alone.
 - Refrigerator: 1,2m; clock, notes; verbal control,
 - Wall(tiled) close to oven: 2,5m; cooking instructions; verbal control
- P2: mounted on ceiling: Output on wall; Input at working surface
- P3: prefers flat surfaces
 - Table is commonly full of food and other stuff
- P4: Placed on cupboard offering 1-2 surfaces; ca 2m
 - Clock + Timer close to kitchen hood
- P5: Placed on cupboard offering 1-2 surfaces; ca 2m
 - Cooking instructions . use speech for navigation
 - Music player for entertainment
 - Shopping list; also via speech
- P6: Placed at wall; 80cm from surface;
 - Cooking Instructions; output at surface, input at smartphone
 - input via shadow
 - at device, maybe
- P7: Fixed installation at 1,8m distance;
 - cooking instructions; controlled via speech
 - touch and cooking is difficult since hands are used for cooking
- P8: Fixed installation at 1,8m distance;
 - Notes; via speech
 - Timer
 - Home automation; Caffe/dishwasher

- P9: mounted on ceiling:
 - shopping list: touch keyboard
 - separate unit for every surface
 - remote for on/off
 - cooking instructions; only on flat surfaces
- P10: placed on wall facing table
 - Shopping list
 - cooking instructions; write with finger/speech
- P11: placed on wall facing table
 - Simple games while waiting for food
 - reading news
- P12: mounted at wall facing cupboard
 - cooking instructions; keyboard for search
 - home automation/ boiling water/ caffe
- P13: mounted on ceiling creating 3 surfaces
 - Setup via smart remote
 - cooking instructions above stove, scroll via mid-air-gesture
 - News at breakfast, mobile phone replacement
- P14: Several units
 - prefers flat surfaces
 - cooking instructions:
 - in Combination with table or speech interaction
 - main use: output
 - concerned because of shadows
 - combination with cloud, for lists and infos
- P15: placed on ceiling
 - cooking instructions
 - making phone calls

- P16: one movable unit for 3 surfaces
 - 2x cooking, pre setup via pc; touch to scroll
 - 1x news
- P17: One movable Unit
 - Storeroom door: recipe for cocktails
 - Fridge: notes Trash-calender
 - preconfigured movable (manuel) unit
- P18: One manual movable unit
 - Controlling via touch or speech
 - recipe over oven
 - No wires
 - Prefers flat surfaces

working/study room

- P1: Mounted on ceiling auto rotating to several walls, presenting movies, news
 - configuration with smartphone; could be time consuming, but only once.
 - selecting surfaces via speech
- P1: Mounting over desk: ca 90 cm; To Do list; ToCh
- P2: Mounted on ceiling
 - can not offer surfaces close do desk since it is crowded by paper and stuff
 - Digital white board; for notes ideas and problem solving
- P6: Mounted at shelf beside desk with hook-and-loop fastener; 1m to surface; Mount is flexible to face different surfaces,
 - Reminder / Clock
 - Generating UI's via touching edges
 - Shortcuts to launch PC tasks
 - Interaction with real objects, placement of objects
- P7: mounted at wall, 2-2,5m

- White board
- P8: mounted at wall; (nursery)
 - alternativ for babysit
 - display/monitor/sound
- P11:
 - Messaging and Notes information centre
 - needs non disturb(silent) mode
- P12: Mounted on ceiling facing on desk
 - Awesome idea for studying; control via touch
 - does not use notebook, commonly books
 - control of ui via menu
- P13:
 - Photoshop drawing table
 - concerned on shadows
 - maybe replacing monitor
 - needs to be in focus all the time
- P14:
 - concerned about shadows
- P15:
 - Big info Screen, connected to Pc
- P16:
 - desk is always full -> no projection possible
 - likes the screen (2 displays are enough)
- P17:
 - One Unit
 - showing gymnastics exercises
 - TV Replacement/Youtube
 - Control via Mobile/speech

- P18:
 - One Unit: for music control, using while ironing

Living Room

- P2: Mounted fixed on ceiling
 - On/Off: fixed switch <- remote always misplaced
 - Better solution than tablet, nothing to hold.
 - Boardgames could be projected to table
- P3: Mounted movable on ceiling
 - Device should store Position of surfaces/Displays (after configuration)
 - Switching between surfaces via speech (Table/Images)
 - Table for news/infos/games; ca 2m
 - Images for digital foto frame; ca 1,5 -2,5m
 - On/Off: via switch(remote)
- P4: Mounted at Wall offering 2-3 surfaces ; 3,5m
 - Digital Image Frame
 - TV; control via remote
- P5: Mounted central in room offering 2 surface; 2-3m
 - Ambient light
 - Wether information
 - Facebook Timeline; not at table du to clutter
- P7: mounted on wall, facing table; ca 2m (dining room)
 - use only when alone
 - Display travel time to work
 - Wether information
- mounted also on wall/ceiling; 2,5m (living room)
 - is not a replacement for a TV but a TV guide
 - prefers flat fixed surface since sits always in a different pose

- P8: mounted on wall, facing table, 2m (dining room)
 - Bus table
 - News on table
 - Uses remote for on/off switching; clapper is weird
- mounted also on wall/ceiling; 2,5m (living room)
 - should be small and direct integrated in ceiling
- P9: mounted at ceiling; 2m
 - Bus schedule: on/off on Movement
 - Dia show, controlled via mobile phone
- P10:
 - Digital foto frame
 - wether information
 - Skype
 - Music visualisation
- P13: mounted on ceiling, movable
 - project playing board on table
 - different board, same. Interactive with 'real' tokens
 - watching movies, controlled via speech or laser pointer
- P14: Places on cupboard
 - Twitter wall, Sports League,
 - Board games: stats
 - Movies, Music, track information
 - Notification service, Trash, Cleaning Plan, ToDo List
- P15: ceiling
 - Movies/Music/News controlled via remote
 - Skype with separate camera
- P16: Mounted on ceiling
 - Movies, controlled via remote

- Music: Title and visualisation
- Clock: Default screen: Always on
- Mentioned App-System, touch/remote launches app
- P17/18
 - Big new Smart/flat TV no need to replace/expand
 - pictures are already at wall;

Bedroom

- P3: Mounted on wall; offering surface at bedside cabinet.
 - Used for Alarm; Movie control in combination with second beamer
- P5: Mounted at ceiling; 2,5 m
 - Facebook, Weather projection close to bed; interaction via touch
- P6: Placed on edge of the bed close to user.
- Interaction via shadow.
 - control of TV media centre (XBMC)
 - TV extension for additional information
 - Calendar in the morning
 - Ambient light/illumination of room
- P7: Uses Mobile-Phone in Bedroom
- P8: Afraid of privacy
- P10: placed on edge of the bed facing ceiling
 - watching movies maybe not optimal
 - Prefers fixed installation on PC monitor
- P12: 2,2 m to surface
 - Digital image frame
 - Remote for on/off switching
 - Calendar
 - movies

- P13:
 - Watching movies controlled via speech
 - Controlling alarm
- P15:
 - Primary sleeping, technology is disturbing sleep
 - Movies Music
 - Privacy concerns
- P16: fixes installation close to drawer
 - Alarm, weather, news
 - Control via remote
- P17: One Unit,
 - totally amazed: Watching movies
 - control via laser or speech
- P18: Just for sleeping
 - doesn't want technology in sleeping room

Corridor

- P1: mounted on ceiling offering 3 potential surfaces on or close to doors; 1,5 -2m;
 - automatic rotation to different surfaces is desirable via speech
 - Presenting calendar of flatmates(at corresponding door), or weather and bus timetable at front door.
- P2/P3: Mounted on ceiling offering 2 potential surfaces; door or wall; 1,5m - 2m
 - Used for Bus time table
 - Home automation
 - Door interphone
- P4: mounted at wall; 1 surface 2m;
 - Digital Image Frame
- P5: mounted at wall; 1 surface 2m;

- Door interphone
- P7: Mounted at ceiling, 1,5M to door
 - Schedule
 - Infos
 - Home automation
- P10: Placed over door in front of flat:
 - creating interactive rug
 - notes
 - welcome note
- mounted on ceiling facing surface beside door:
 - home automation
- P11: mounted on ceiling facing surface beside door
 - offering messaging service
 - calendar
 - bus schedule
- P13: mounted on ceiling(moveable)
 - Creating user interfaces via Laser
 - Arriving at home: Time, News, Temperature, Notes, Shoppinglist (no interaction)
 - Leaving home: Bus schedule, Calendar
- P14:
 - combination with tablet for control
 - Digital image frame
 - Notification/Log next to telephone
- P15: one simple big screen
 - Twitter Wall, bus schedule, calendar, weather
 - Touch/swipe for next page
- P16: mounted on ceiling
 - Simple info screen: swipe for next page

- P17: Unit fixed to wall
 - Quote of the day
 - Jokes Like to read stuff
 - Greeting guests

Bathroom

- P1: Mounted above the mirror pointing into sink; 1,2m; showing weather information
- P1: Bathroom not so interesting, missing flat surfaces
- P1: Maybe in front of toilet: movies, news;
- P2: Do not want such technology in the bathroom
- P3: Mounted at Wall facing Mirror ca. 1,5m.
 - Music Player and control close to mirror
- P4: Mounted at wall; 1 surface; 1,8m
 - Watching movies; control via speech
- P6: Mounter at wall; 1,5 m from surface
 - Shower: Music streaming and control
 - Toilet: Facebook ;)
- P7: Mounted on ceiling facing wall; ca 1,5m
 - Info Center
 - Movies
 - control via touch
 - P8: Mounted at wall close to bath tub facing other wall
 - Reading a book: interaction via speech
- P9: Placed on Mirror
 - Music control
 - don't want to touch -> dirty walls
 - no suitable alternative; (no speech)
- P10: privacy issues

- P11: watching movies in bath tub.
- P13: mounted movable at ceiling
 - News and Time controlled via touch
 - Watching series (20 min); control via speech or second interface
- P14: mounted on ceiling
 - automatic switching when entering room
 - Creating ui via 4 points
 - Music, information controlled via speech
 - Calendar next to mirror
 - Simple gestures at wall to control 'close by' display.
- P15: privacy concerns
- P16: not necessary in bathroom
 - maybe simple news next to mirror
- P17:
 - Reading news
 - Laser as mouse replacement
- P18:
 - Reading a book, while relaxing in bathtub (speech)
 - Music

Restroom

P1: ZDF media center

P2: n/a

P3: n/a

P4: no interest in device

P5: no interest in device

P6: Facebook at wall beside toilet.

P7: Websurfen

P8: no interest in device

P13: Privacy

Additional Notes and Ideas

- P1:
 - Unit should be automatic rotatable, controlled by speech;
 - Unit should be portable and should be mounted to 'wall-plugs' which recharge it.
 - Seamless room switching
 - Recognition of known surfaces (room specific via wall-plugs) and continue presenting of last shown content.
 - Link to smartphone for configuration
- P2:
 - Combination of small portable unit with stationary movable station would be interesting.
- P6:
 - Fancy look is appreciated - Green lemon
 - Should be robust against drops to accomplish maximal flexibility and mobility
 - Settings should be adjusted via smartphone, not directly on device(no display nor buttons)
 - Prefers one semi-mobile device to save expenses
 - Mount should be glued not bolted (rules in rented flat)
 - Battery should be loaded via induction
- P7:
 - Grabbing attention by knocking at surface -> preconfigured surface is illuminated.
 - Device knows schedule, automatic switching
 - Mid air gestures feels weird
 - "SplitScreen" would be nice for more user use
 - Prefers touch compared to speech (uses siri and is not so happy with usability)

- calibration tasks should be minimal
- P9: Mobile phone can stream content to closes projector.
- P10: form and design should be round, flat, like a cup
- P12: How is privacy guaranteed ?
- P12: Like one unit semi movable
- P13: System is mounted on rails an can flow the user

Interesting Quotes

P1: "I prefer flat surfaces even if they are undistorted"

P1: "Projection are bigger than smartphone or tablet, thats always good when reading news"

P1: "i don't like a remote, it is only another pice to carry around"

P2: "device saves expenses for several unique input devices due to flexibility"

P4: "device should be configured when installed, i just want to use it"

P6: "The bigger the better" (screen size)

P7: " i am bored while having a shower"

P10: "like my smartphone, device contains all information"

P14: "I don't like touch since there is no haptic feedback"