Proposal For New Accessibility Emoji
Submitter: Apple Inc.
Date: March 2018

# Abstract

Apple is requesting the addition of emoji to better represent individuals with disabilities. Currently, emoji provide a wide range of options, but may not represent the experiences of those with disabilities. Diversifying the options available helps fill a significant gap and provides a more inclusive experience for all.

# Introduction

One in seven people around the world has some form of disability, whether that be a physical disability involving vision, hearing, or loss of physical motor skills, or a more hidden, invisible disability. The current selection of emoji provides a wide array of representations of people, activities, and objects meaningful to the general public, but very few speak to the life experiences of those with disabilities.

At Apple, we believe that technology should be accessible to everyone and should provide an experience that serves individual needs. Adding emoji emblematic to users' life experiences helps foster a diverse culture that is inclusive of disability. Emoji are a universal language and a powerful tool for communication, as well as a form of self-expression, and can be used not only to represent one's own personal experience, but also to show support for a loved one.

This new set of emoji that we are proposing aims to provide a wider array of options to represent basic categories for people with disabilities. This is not meant to be a comprehensive list of all possible depictions of disabilities, but to provide an initial starting point for greater representation for diversity within the emoji universe.

# Selection Process

Every individual's experience with their disability is unique and, therefore, the representations have unlimited possibilities. It would be impossible to cover every possible use case with a limited set of characters. For this proposal, we have selected a set of emoji that are most inclusive to a large number of people in four main categories: Blind and Low Vision, Deaf and Hard of Hearing, Physical Motor, and Hidden Disabilities. Developed in collaboration with internationally respected community organizations such as American Council of the Blind, the Cerebral Palsy Foundation and the National Association of the Deaf, we believe this proposal is a significant step forward in representing more diverse individuals, and we hope it will spark a global dialogue around better representation for people with disabilities.

# Proposed emoji

**BLIND AND LOW VISION**

285 million individuals are blind or low vision worldwide.[1] In addition to the existing magnifying glass and eye emoji, we'd like to propose adding the following characters to better represent the blind community:

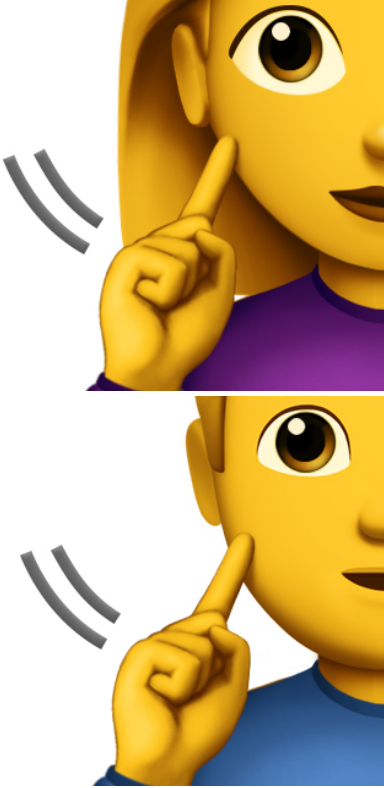| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
|---|---|---|---|
| E107 |  | guide dog with harness<br><br>≈ 🐕 U+1F415 dog | See also, service dog with vest below. |
| E100 |  | person with white cane<br><br>≈ 🚶 U+1F6B6 person walking | Variants: gender, skin tone |

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[1] http://www.who.int/features/factfiles/blindness/blindness_facts/en/index.html

Notes:
- For "person with probing cane" we considered the alternative of encoding just a character for probing cane and using a ZWJ sequence for the people combinations. However, the image of a probing cane would not be sufficiently distinctive at emoji scale; it needs to be shown with a person in order to establish its identity.

**DEAF AND HARD OF HEARING**

360 million individuals are deaf or hard of hearing.[2] In addition to the existing "I love you" and "victory hand" emoji, we'd like to propose adding the following two additional characters to better represent those with a range of hearing loss.

| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
|---|---|---|---|
| E103 |  | deaf sign<br><br>≈ 🙋 U+1F64B person raising hand, OR<br><br>≈ 🤟 U+1F91F love-you gesture | Variants: gender, skin tone |

2 http://www.who.int/mediacentre/factsheets/fs300/en/index.html

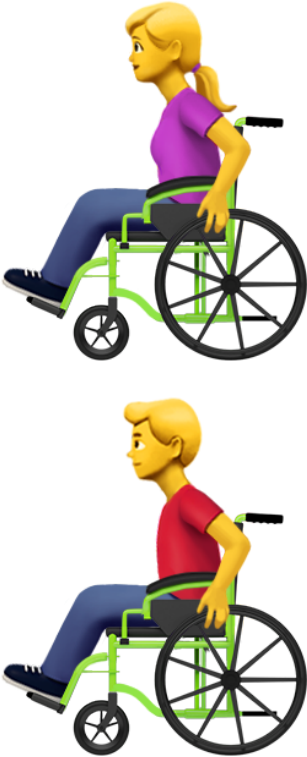| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
|---|---|---|---|
| E104 |  | ear with hearing aid<br><br>≈ 👂 U+1F442 ear | Variants: skin tone<br><br>See notes |

Notes:
- For "deaf sign", while no sign is 100% universal given the many versions of sign language around the globe, this iteration of the sign is most widely used as a representation—amongst 31 global sign languages, 18 use this index finger gesture to represent the deaf sign.[3] As with "I love you" and "victory hand", there may be other interpretations, but this image provides the most universal means of providing a representation of the term.
- For "ear with hearing aid" we considered the alternative of encoding just a character for hearing aid and using a ZWJ sequence for the combination with ear. However, the image of a hearing aid would not be sufficiently distinctive at emoji scale; it needs to be shown with an ear in order to establish its identity.

**PHYSICAL AND MOTOR SKILLS**

Within the emoji universe, we already represent movement in a variety of ways—from dance to cartwheels to surfing. Illustrating the movements of those with limited or augmented physical or motor skills is a logical extension to create a more complete set of characters.

| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
| --- | --- | --- | --- |
| E101 |  | person in mechanized wheelchair<br><br>≈ 🚶 U+1F6B6 person walking | Variants: gender, skin tone<br><br>See notes |

| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
|------|---------------|---------------------------------------------|----------|
| E102 |  | person in manual wheelchair<br><br>≈ 🚶 U+1F6B6 person walking | Variants: gender, skin tone<br><br>See notes |
| E105 |  | mechanical arm<br>prosthetic arm<br><br>≈ 💪 U+1F4AA flexed biceps | Expected to have a variety of uses |

| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
|---|---|---|---|
| E106 |  | mechanical leg<br>prosthetic leg<br><br>≈ U+1F9B5 leg | Expected to have a variety of uses |

Notes:
- For "person in a mechanized wheelchair" and "person in a manual wheelchair" we felt two separate characters were necessary. The type of assistive technology that is used by individuals is very personal and mandated by their own disability need. For someone who cannot self-propel and therefore uses an electric wheelchair, it would not be realistic to only show a manual chair. For those who can use a manual version, it would not be realistic to insinuate that they have less mobility than they do. Therefore, these should be seen as two totally separate forms of assistive device. Generalizing these two would be akin to assuming the motor scooter and kick scooter are the same thing.
- For "person in a mechanized wheelchair" and "person in a manual wheelchair" we also considered the alternative of encoding just a character for mechanized wheelchair and just a character for manual wheelchair (or the existing wheelchair symbol) and using a ZWJ sequence for the combination with a person. User input to the emoji subcommittee indicates that people are mainly interested in a wheelchair character for self-representation and request the combination of wheelchair and person depicted together. In addition, there is no suitable depiction of a person to use in such a sequence; the existing people characters that might be used (such as "Pedestrian") would have inappropriate and possible offensive fallback. Therefore, if a wheelchair were to be encoded alone, we would also need ZWJ sequences that depict a person in the wheelchair, and also a new seated person emoji that would be suitable for use in such sequences. This would result in more emoji characters on the keyboard than just having a single person in wheelchair emoji.

**HIDDEN DISABILITIES**

For those who are deaf or have hidden disabilities such as Autism, seizures, anxiety, PTSD, etc., service dogs not only perform tasks to help their partners live independent lives, but may represent a lifeline in moments of crisis.

| code | sample images | suggested CLDR name(s), ≈ collation position | comments |
|------|--------------|---------------------------------------------|----------|
| E108 |  | service dog with vest and leash<br><br>≈ 🐕 U+1F415 dog | See also, guide dog with harness above. |

Notes:
- For "guide dog with a harness," proposed under the Blind and Low Vision section, and "service dog with vest and leash," we considered the alternative of encoding just one character. However, these dogs utilize different equipment to assist those they support and are therefore, visually different in their representations. A guide dog for the blind wears a harness that includes a sturdy handle tailored to provide optimal communication between the dog and owner. A service animal is more likely to be leashed and vested, and based on the services they support (detection of seizures, retrieving objects, alerting to auditory cues, etc.), they would not need to wear a complete harness. The two animals indicate very different types of disability that should not be conflated as one. In addition to that, while the visual distinction may appear subtle, the distinction is clear in text to speech. This is especially important when considering these characters as it may be the primary way that visually impaired users interact with emoji, particularly "guide dog with harness" which is proposed with these users in mind.

# Other possibilities

Among the other considered characters were:
- A touch tablet or PECS board, however that was considered difficult to read at emoji scale. Also, emoji themselves can be used for this purpose already.
- A walking cane, however the design did not feel distinctive enough from "person with probing cane" at emoji scale.
- Different colored ribbons, however today there is no consistency in color representation of the reminder ribbon emoji, and some ribbon colors are so strongly associated with causes that they may be considered as logos (and thus are not encodable).
- Braille, however Braille is encoded in Unicode already as set of characters and would pose challenges to represent abstractly in a way that could be internationally understood.
- Eye within a magnifying glass, however it was felt that there were already existing eye and magnifying glass characters that could be used together.

# Emoji selection factors

A. <u>Compatibility</u> Are these needed for compatibility with high-use emoji in existing systems?
> These characters are not proposed for compatibility with non-Unicode emoji on an existing system, therefore compatibility is not applicable.

B. <u>Expected use</u>
1. <u>Frequency</u> Is there a high expected frequency of use?
> The proposed emoji are expected to have high usage in the community of people affected by disabilities, including friends and family. As noted, this community includes more than one billion people worldwide. That said, the most compelling factor for this proposal is not frequency of use of each character, but the desire to be inclusive in representation.

2. <u>Multiple usages</u> Does the candidate emoji have notable metaphorical references or symbolism?
> Characters like the mechanical limbs could be used in multiple ways.

3. <u>Use in sequences</u> Can the candidate be used in sequences?
> The proposed characters are not expected to be useful for ZWJ sequences.

4. <u>Breaking new ground</u> Does the character represent something that is new and different?
> Other than the wheelchair symbol, there are currently no emoji that can be used to depict various forms of disability.

C. <u>Image distinctiveness</u> Is there a clearly recognizable image of a physical object that could serve as a paradigm, one that would be distinct enough from other emoji?
> The images are distinct from existing images. However, there are some similarities among the proposed images:

- "Person in a mechanized wheelchair" and "person in a manual wheelchair" are proposed as separate characters because the type of assistive technology that is used by individuals is very personal and mandated by their own disability need. For someone who cannot self-propel and therefore uses an electric wheelchair, it would be offensive to only show a manual chair. For those who can use a manual version, it would be offensive to insinuate that they have less mobility than they do.

- For "guide dog with a harness" and "service dog with vest and leash" we considered the alternative of encoding just one character. However, these dogs utilize different equipment to assist those they support and are therefore, visually different in their representations. A guide dog for the blind wears a harness that includes a sturdy handle tailored to provide optimal communication between the dog and owner. A service animal is more likely to be leashed and vested, and based on the services they support (detection of seizures, retrieving objects, alerting to auditory cues, etc.), they would not need to wear a complete harness. The two animals indicate very different types of disability that should not be conflated as one. In addition to that, while the visual distinction may appear subtle, the distinction is clear in text to speech. This is especially important when considering these characters as it may be the primary way that visually impaired users interact with emoji, particularly "guide dog with harness" which is proposed with these users in mind.

D. <u>Completeness</u> Does the proposed pictograph fill a gap in existing types of emoji?
> The proposed set in itself provides a significant advance in coverage to depict various forms of disability, and fills a significant gap in representation and inclusiveness among existing emoji. We welcome other considerations that can help complete the set.

E. <u>Frequently requested</u> Is it often requested of the Unicode Consortium, or of Unicode member companies?

> These have been frequently requested of Apple, and related emoji for disability have been the subject of at least 3 other proposals sent to the Unicode Consortium.

**COUNTERARGUMENTS TO FACTORS FOR EXCLUSION**

F. <u>Overly specific</u> Is the proposed character overly specific?

> The proposed emoji are no more specific than they need to be in order to represent the intended range of disabilities.

G. <u>Open-ended</u> Is it just one of many, with no special reason to favor it over others of that type?

> As noted, the proposed set provides a significant advancement in the depiction of various forms of disability. While we would hope this set stimulates discussion about possible additional ways to depict disabilities, we don't expect such discussion to lead to proposals for a large number of additions beyond the current proposal.

H. <u>Already representable</u> Can the concept be represented by another emoji or sequence?

> The concepts depicted in the proposed set are not representable with existing emoji.

I. <u>Logos, brands, UI icons, signage, specific people, deities</u> Are the images unsuitable for encoding as characters?

> Not applicable. There are no logos, brands, signage or otherwise among the proposed characters.

J. <u>Transient</u> Is the expected level of usage likely to continue into the future, or would it just be a fad?

> Not applicable. The concepts and practices represented here are enduring.

K. <u>Faulty comparison</u> Are proposals being justified primarily by being similar to (or more important than) existing compatibility emoji?

> Justification for encoding the proposed emoji does not depend on analogy with other emoji that were encoded only for compatibility reasons.

**FREQUENCY DATA**

The primary arguments for the proposed characters are inclusiveness and expected high frequency of usage within a specific, but relatively large community. However, the following sections do provide the data requested in the "<u>Evidence of Frequency</u>" section of the <u>guidelines</u> for submitting emoji proposals. All data are from February and March 2018; each data item was obtained using a new private browser window.

1. General search data for various terms.

For every term for a proposed emoji in the table below, we compare terms for existing emoji from the sample reference section of the "Evidence of Frequency" section, as well as terms for existing emoji that seem more relevant to the proposed emoji (for example a poodle is a specific type of dog, while a guide dog serves a specific function). The terms in bold are for the proposed emoji.

| search term | emojitracker rank/count for a related symbol | Google All | Bing All | YouTube |
|---|---|---|---|---|
| nose [body] | 👃 is #432 (2738877 | 634,000,000 | 38,200,000 | 8,880,000 |
| bicep | 💪 is #66 (75485997) | 13,600,000 | 14,200,000 | 2,720,000 |
| **prosthetic** | | 7,360,000 | 20,100,000 | 727,000 |
| ambulance [transport] | 🚑 is #624 (1077691) | 35,700,000 | 35,300,000 | 4,590,000 |
| massage [activity] | 💆 is #214 (10815804) | 243,000,000 | 47,200,000 | 7,930,000 |
| pedestrian | 🚶 is #141 (22456691) | 102,000,000 | 31,900,000 | 1,300,000 |
| wheelchair | ♿ is #702 (662345) | 41,900,000 | 35,300,000 | 1,810,000 |
| **person in wheelchair** | | 28,900,000 | 280,000,000 | 569,000 |
| **motorized wheelchair** | | 14,800,000 | 170,000,000 | 216,000 |
| **electric wheelchair** | | 3,900,000 | 76,500,000 | 344,000 |
| **manual wheelchair** | | 7,140,000 | 28,100,000 | 130,000 |
| **person in motorized wheelchair** | | 3,470,000 | 66,000,000 | 3,730 |
| **person in manual wheelchair** | | 1,790,000 | 9,280,000 | 6,820 |
| **person with white cane** | | 2,660,000 | 434,000 | 407,000 |
| elephant [animal] | 🐘 is #354 (4300866) | 98,200,000 | 38,200,000 | 13,000,000 |
| poodle | 🐩 is #554 (1614778) | 26,600,000 | 32,200,000 | 1,370,000 |
| **guide dog** | | 30,900,000 | 17,800,000 | 7,670,000 |
| **service animal** | | 35,500,000 | 433,000,000 | 4,860,000 |
| **service dog** | | 9,350,000 | 43,100,000 | 6,620,000 |
| wrench [tool] | 🔧 is #735 (534448) | 26,000,000 | 32,800,000 | 1,130,000 |
| loudspeaker | 📢 is #281 (6833554) | 24,300,000 | 13,500,000 | 976,000 |
| **hearing aid** | | 4,690,000 | 2,050,000 | 582,000 |

2. Google Trends web & image searches for "bicep", "prosthetic".
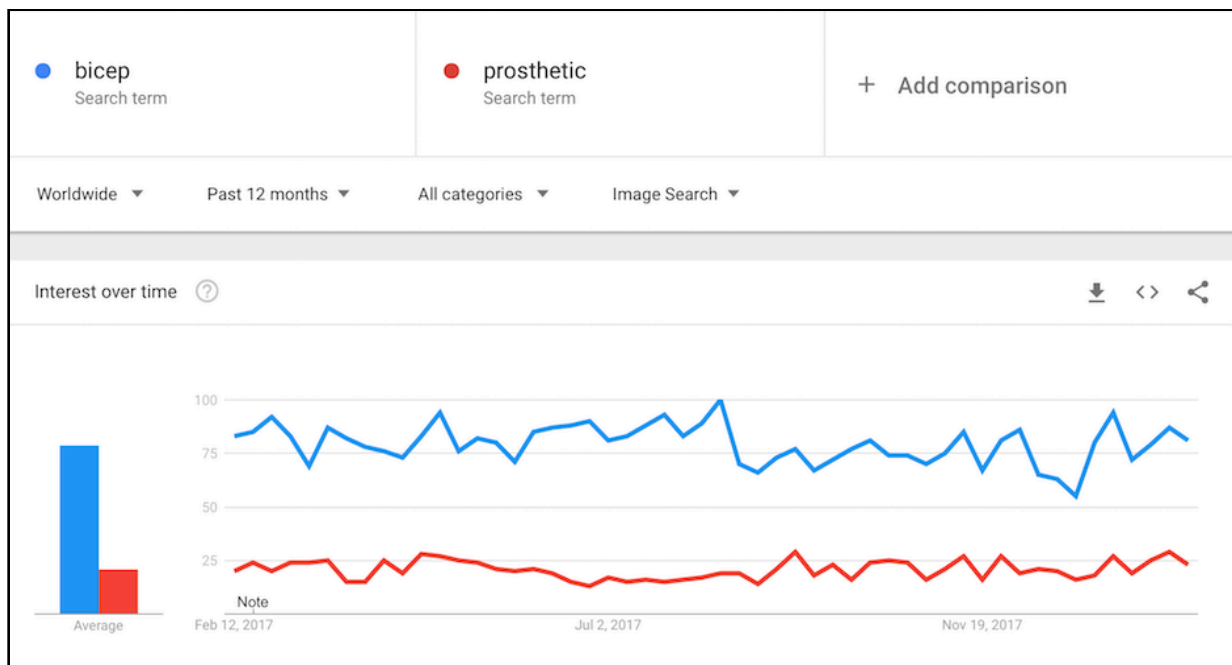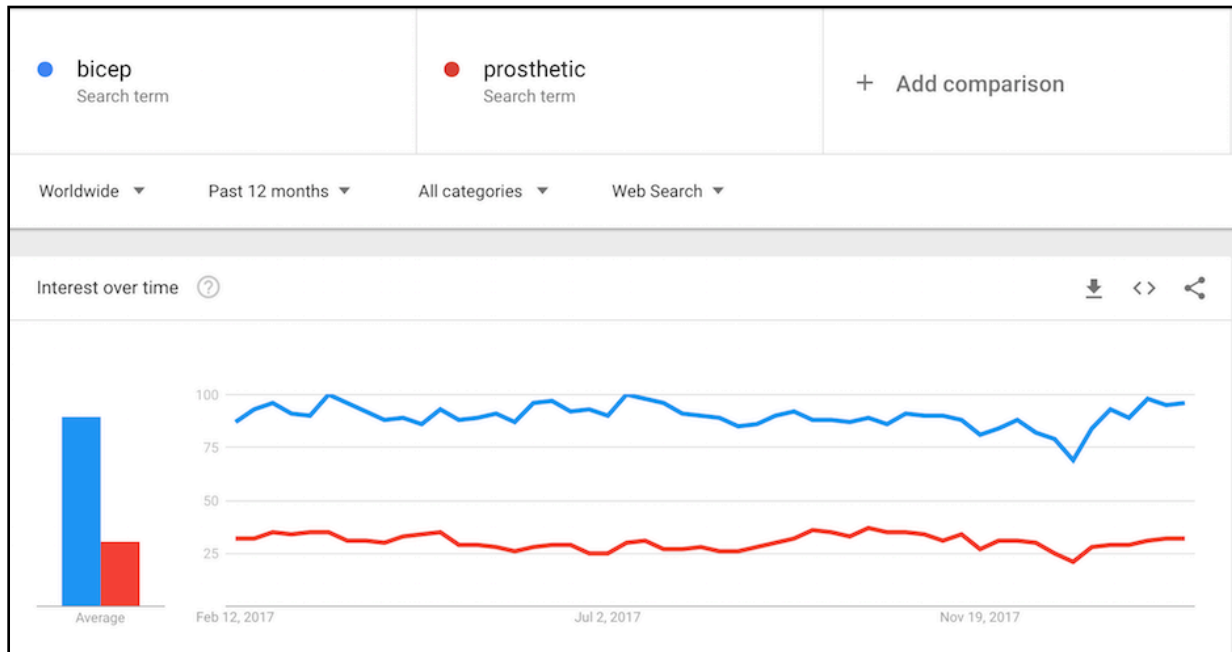
3a. Google Trends web & image searches for "pedestrian", "wheelchair", "white cane" (searching for "person with wheelchair" or "person with white cane" did not produce significant results).
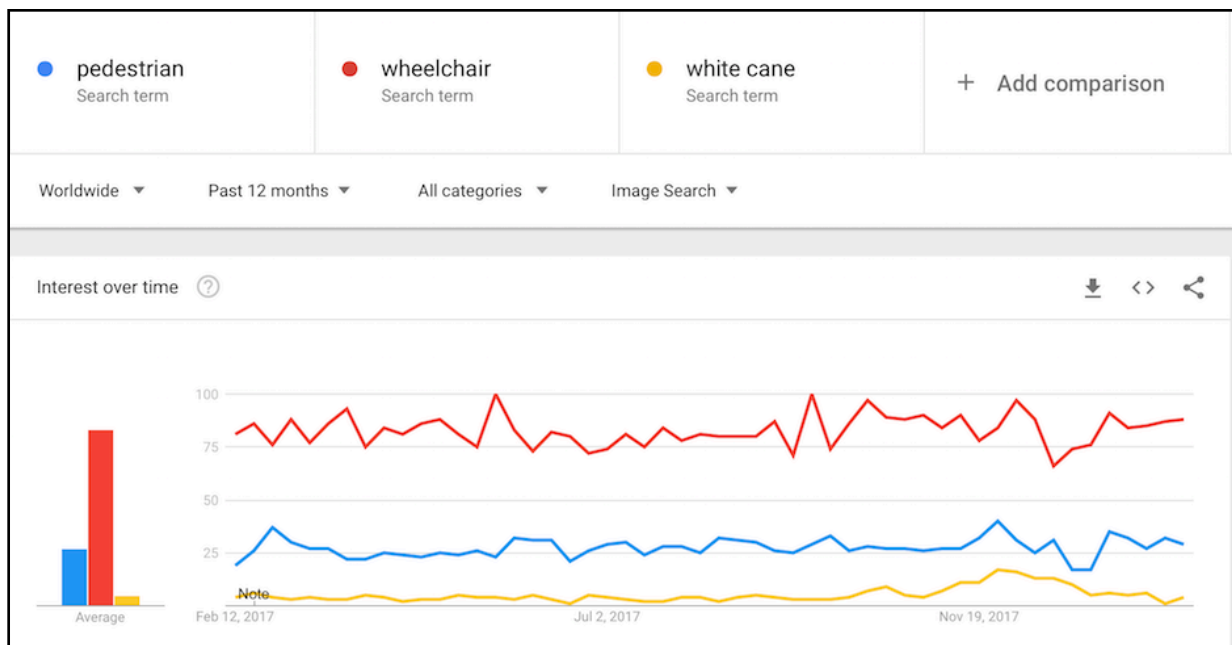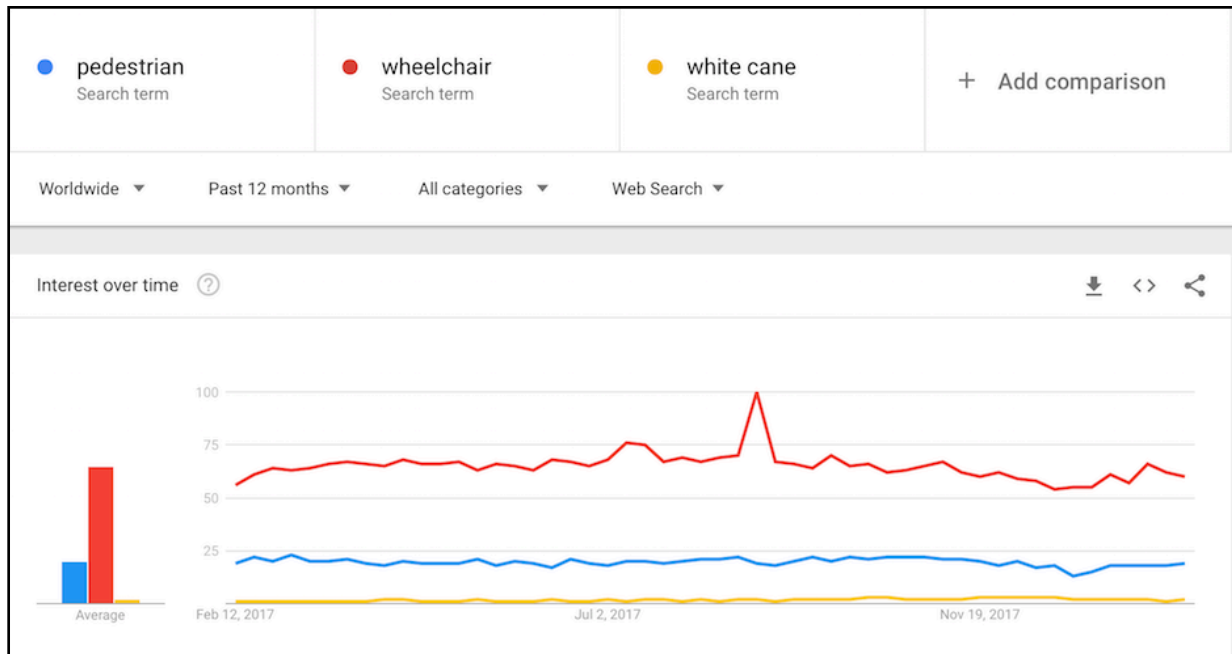
3b. Google Trends web & image searches for "motorized wheelchair", "electric wheelchair", "manual wheelchair".
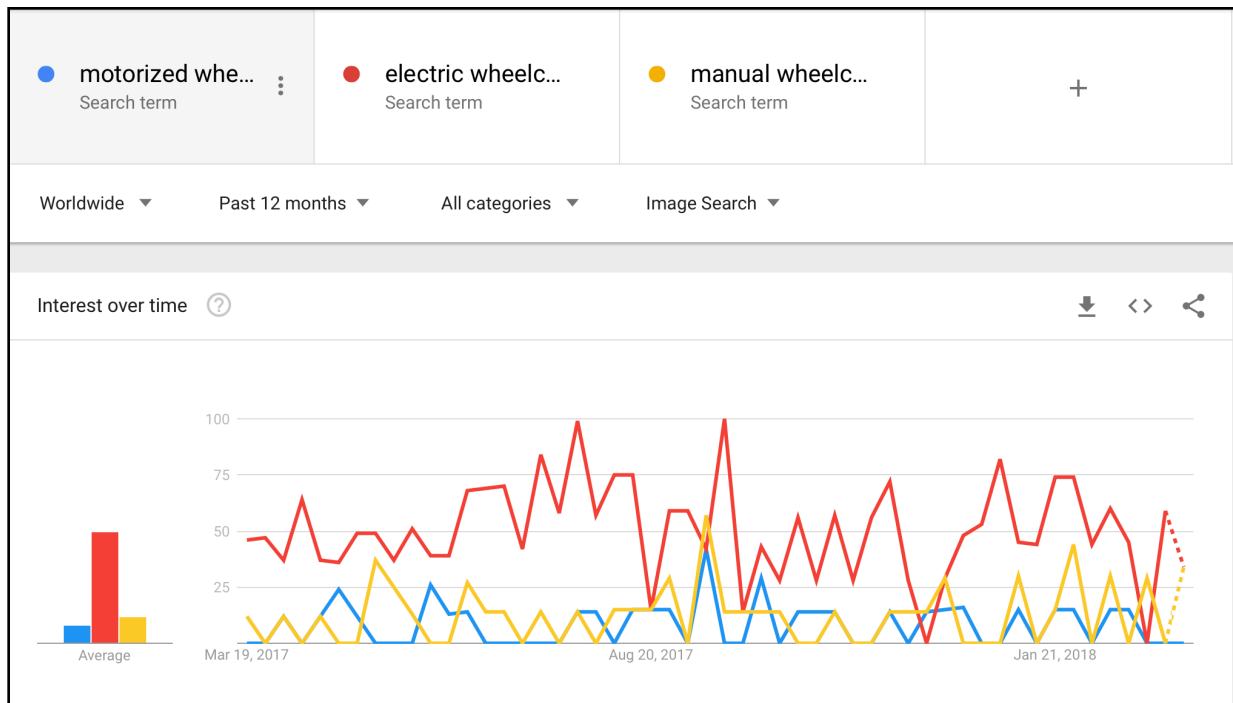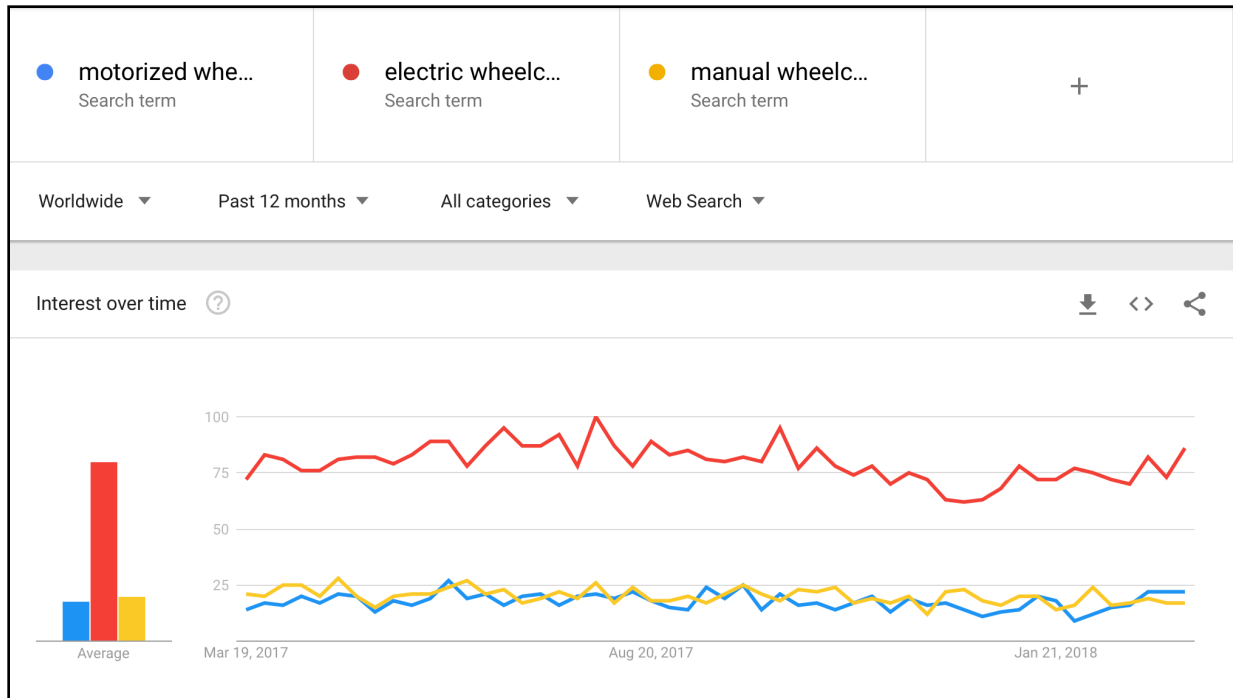
4. Google Trends web & image searches for "pedestrian", "wheelchair", "poodle", "service dog" ("pedestrian" and "wheelchair" are repeated here to facilitate comparison with the previous charts)
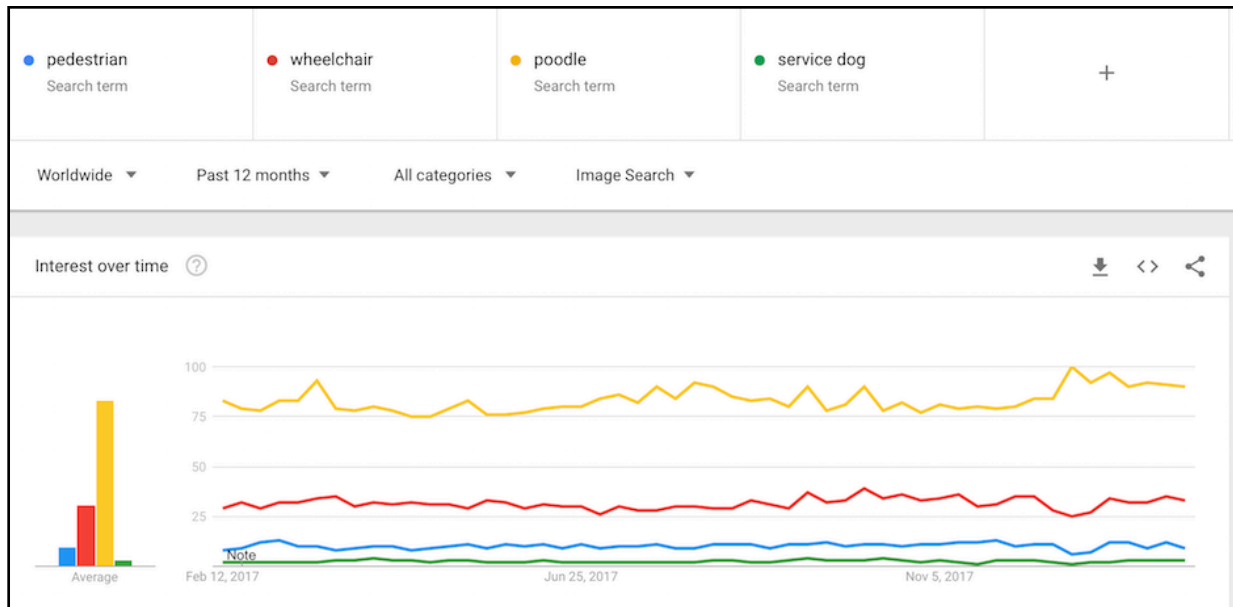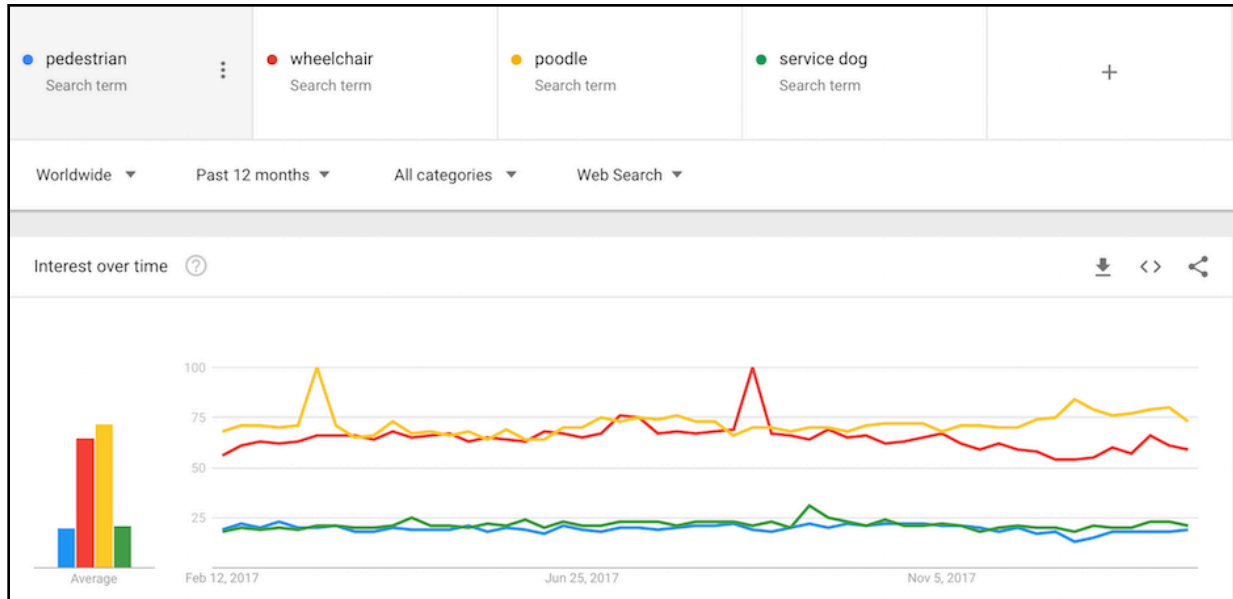
# Summary of proposed emoji

| code | suggested CLDR name(s) | encoding alternatives considered |
|------|------------------------|----------------------------------|
| E100 | person with white cane | Considered encoding just a character for probing cane and using a ZWJ sequence for the people combinations. However, the image of a probing cane would not be sufficiently distinctive at emoji scale, nor particularly useful by itself; it needs to be shown with a person in order to establish its identity. |
| E101 | person in mechanized wheelchair | Considered encoding just a character for this wheelchair type and using a ZWJ sequence for the combination with a person. Currently there is no suitable depiction of a person to use in such a sequence, though if a "seated person" were encoded that might be a possibility. The expected interest in depictions of wheelchairs by themselves is limited, the primary interest is in depiction with a person; so unless the seated person was available then the ZWJ sequence would not provide for any additional forms of self-representation. |
| E102 | person in manual wheelchair | Same as above |
| E103 | deaf sign | |
| E104 | ear with hearing aid | Considered encoding just a character for hearing aid and using a ZWJ sequence for the combination with ear. However, the image of a hearing aid would not be sufficiently distinctive at emoji scale, nor particularly useful by itself; it needs to be shown with an ear in order to establish its identity. |
| E105 | mechanical arm, prosthetic arm | |
| E106 | mechanical leg, prosthetic leg | |
| E107 | guide dog with harness | |
| E108 | service dog with vest and leash | |