

YOGA



Information Visualization and Presentation

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Neera Grover, Shrestha Mohanty, Divya Garg

Project website: <http://people.ischool.berkeley.edu/~divyag/Yoga>

Code repository: <https://github.com/divyagarg1/YogaInfoViz>

Overview

There is an increased amount of awareness about Yoga in the US and the popularity of the practice has risen multifold. Since there are multiple aspects to the practice including physical, mental and spiritual in addition to the multiple forms/types of yoga that exist, there is a huge variation in people's views based on their own exposure and experience. We experienced this first hand while discussing about our own yoga experiences and learning how varied our perspectives were, the range of experiences we had had and what we knew about the presence of yoga in USA. This made us curious to learn more and we launched a basic user research experiment wherein we asked people about Yoga. Soon enough we found confirmation about the variation of perspectives and experiences about the topic but we also learnt that there was genuine curiosity about the topic. A quest to know more. This inspired us to shape our Infoviz such that it presents the topic of yoga and its related aspects in an informative, easy to grasp way while also giving data based insights.

Goals

Our main goal was to present information about Yoga in an engaging and easy to grasp way. We ultimately wanted to increase awareness about various aspects and types of you. We wanted everyone walked away with some of their questions answered, curiosity piqued and at least one new thing learnt.

Related Work

We went over various projects, visualizations and infographics and identified positive features that we incorporated in our project.

- **Types of Yoga visualization:**

We wanted to include a section in our visualization about the different types of yoga as that had come up many times during our user research. We found [this](#) visualization (picture included below) to be interesting and decided to build an interactive version of the same. However, in the mid term presentations we got the feedback that users wanted a less prescriptive and less suggestive way to

explore the different types of yoga. We also learnt that the users wanted a more holistic view. So, we decided to not use this approach and look for a different way to depict this information. Eventually, we ended up using the round shape of chakras to embody the spirit of yoga and represent this information on a wheel (more details in the Types of Yoga section).



- **Yoga Poses content:**

We needed information for the yoga poses for the poses section and found the [Yoga Journal](#) to be an exhaustive source of information. We pulled all of information about the poses including pictures, cautions and benefits. The visualization we used is discussed in the upcoming sections.

- **Wikipedia:**

In our types of yoga section, we decided to go with the wheel visualization but we needed information for the same. We sifted through a lot of data and found many sources with information of types of yoga ranging from a more historical theoretical perspective to a more practical perspective. We struggled with credibility issues of the various websites and blogs and that was one of our biggest challenges with respect to data. We ultimately decided to go with information available on wikipedia as there was no accredited source of the information we were looking for.

- **Yogi practicing Yoga:**

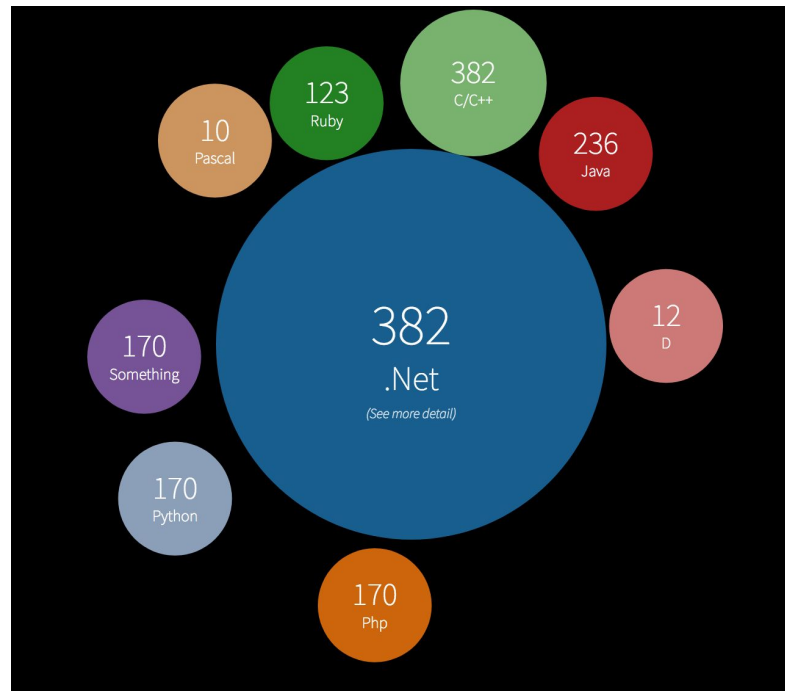
We wanted to leave a subtle cue in the end to spring people into action without being direct about it. We wanted to do an animation for the same and would like to give credit to the following gif we found and used after editing:

<http://daniellevy.humandalas.com/benefits-of-surya-namaskar-yoga-animated-gif/>

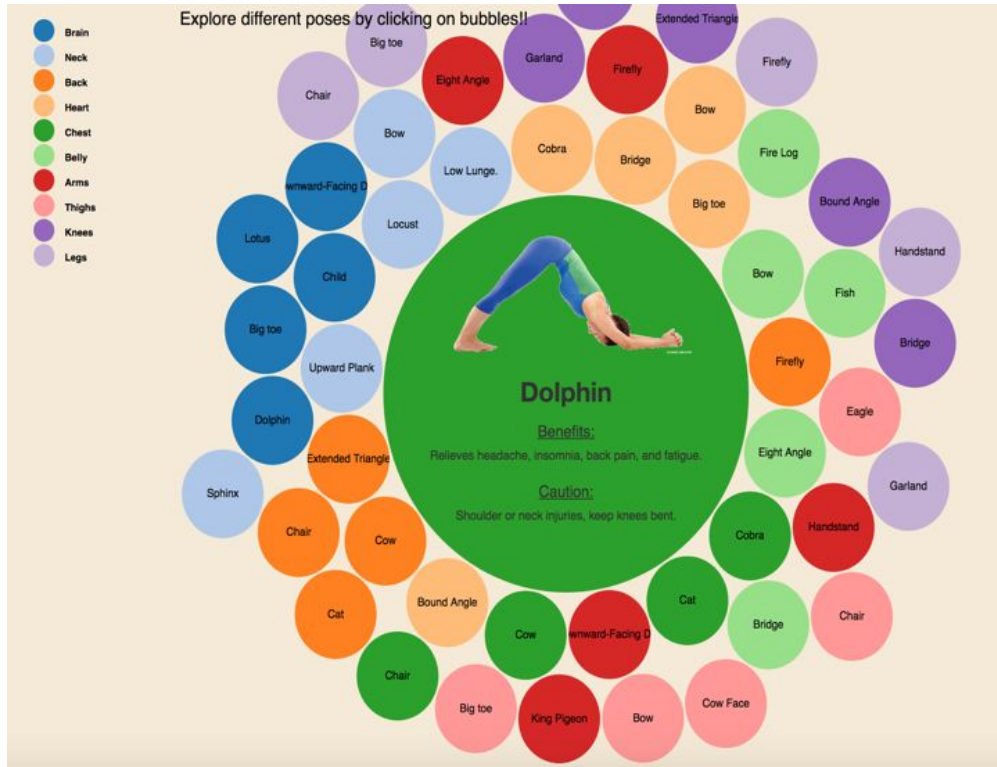
- **Template:**

This was very important for the presentation part of our visualization. We had a narrative in mind and a structure that would help us tell the story. We felt that [this](#) template design fit well with our needs. We modified it to support our story and visualizations.

- **Bubble chart:** To represent the qualitative information of the different types of poses and yet keeping it interactive we found the below visualization [here](#).



This gave us the idea of presenting the poses with the pic and other information in the big middle circle. The round shape of the bubbles went well with our overall theme of using circular shapes and the movement of the bubbles captured the agility of the asanas. We were not worried about the size issue that bubbles mostly present as we were using it for representing qualitative information. We decided to keep all the bubbles of the same size. We color coded the bubbles based on parts of the body and aligned that with a corresponding legend.

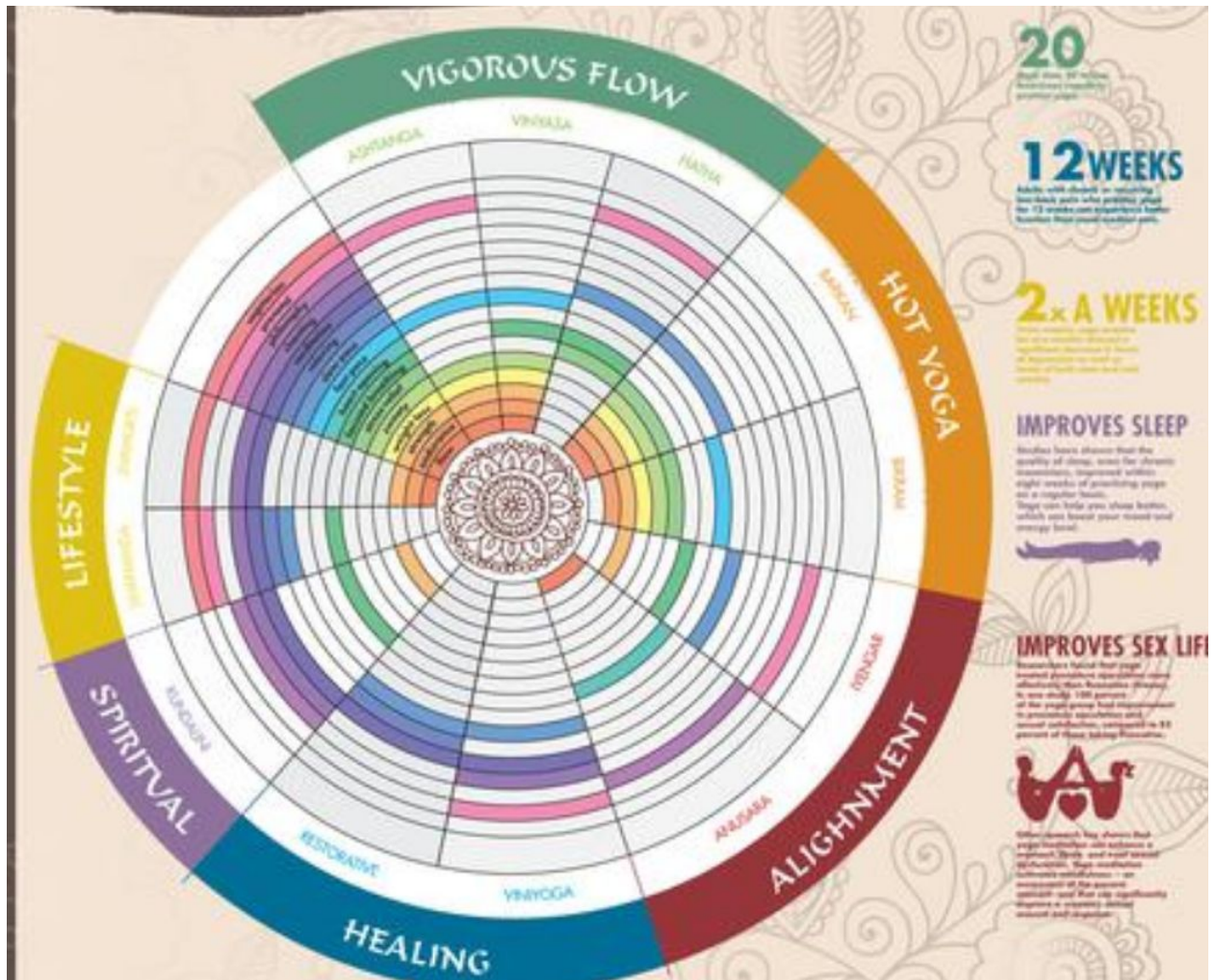


- **Wheel Visualization for Types of yoga:**

We found this visualization to use as a base for our Types of Yoga visualization. It's overall shape aligned with what we were looking for to capture the spirit of Yoga and we had the content garnered from wikipedia as mentioned above. The modifications and customizations we did for the same are discussed in the Types of Yoga section in detail.

- **Attributes of Types of yoga:**

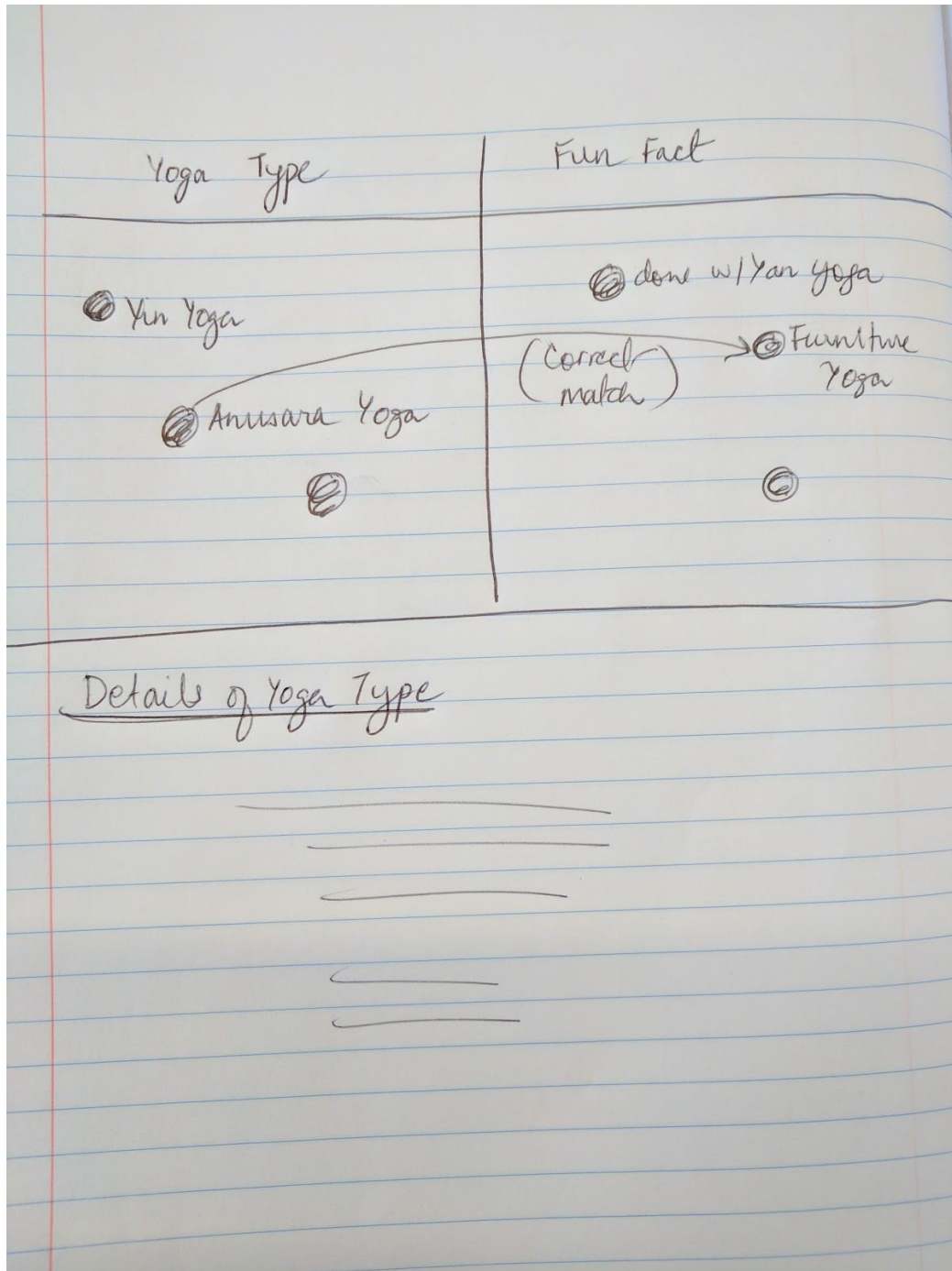
While the above visualization helped us present information about types of yoga in an easy to grasp and fun to explore way, we wanted to add certain dimensions about the yoga types that had come up in our research e.g. pace, alignment, healing, spiritual etc. We used inspiration from the [this](#) visualization (pic included below) and dropdowns to work that interaction in.



- **Our own innovation**

During our exploration of visualizations for yoga, we found that while there was a lot of information available, there were not many visualizations available. At one point we came up with our own innovative infoviz for types of yoga. It comprised of bubbles on two sides of the page separated by a line. The bubbles on one side had the name of the type of yoga and the bubbles on the other side had a fun fact about yoga. The interaction involved the user choosing the bubble for the type of yoga s/he wanted to explore and dragging it across the line to drop it on the corresponding fun fact. If the user found the correct fun fact bubble corresponding to the yoga type, a section would appear at the bottom displaying more information about the yoga type. If the match was not correct, the correct fun fact bubble would get highlighted and the correct yoga type bubble

corresponding to the chosen fun fact bubble will get highlighted so that the user can learn more about Yoga. However, we got the feedback that this interaction would need more work from the user and be more time consuming. Hence, we decided to no go with this and instead select something that was less effort intensive for the user.



Data

Once we had decided on Yoga as our topic, we spent a lot of time searching the internet for datasets and finally came across two that seemed useful. The first one is from [Statista](#) . This dataset contained a lot of tables that had information pertaining to revenue, number of people practicing Yoga in the US and where it is practiced among others. These tables were not connected to each other.

The other data source is from the survey conducted in 2016 by the Yoga Journal and Yoga Alliance partnered with IPSOS public affairs. We used information regarding the motivations for Yoga practitioners. The link of the report is here: [Link](#) .

Doing an exploratory data analysis on these data sources gave us an idea of what would be useful and interesting to present to Yoga practitioners who already have some idea about Yoga but would like to go deeper and have a better understanding. We wanted the story to flow through well too. After conducting some user research, we decided that information relating to the different types and poses of Yoga would be useful and interesting to demystify in through our project.

Since we did not find any readily available dataset on the internet to use, we began to create our own. For the types of Yoga dataset we wanted the following information:

- Meaning
- Dominant feature or type. eg : Hot, Alignment, Vigorous, etc
- Benefits of practicing this type
- Caution
- Suitable for: who would the type of Yoga be beneficial to
- Pace: Fast or Slow
- Routine (yes or no): Whether the type of Yoga follows a standard set or sequence of poses

First we got the types of Yoga from a table in the Statista dataset which served as the basis. Then we gleaned information from various websites not limited to Wikipedia and the Yoga Journal and put in information that were common in some websites into an excel sheet. We kept only those Yoga types for which we found common information for about the dominant feature across various websites.

The snapshot of the sheet is as below:

Yoga		meaning	type	benefits	Particular components	best for	pace	routine	caution
Acro Yoga	24	yoga + acrobatics	vigorous	builds strength, improves concentration, provides stress relief	3 roles - base, flyer, spotter			yes	can lead to injuries
Wellness Yoga	24								
Power Yoga/Yoga-Pilates/Yogilates	17	an active and athletic type of yoga	athletic yoga / fast pace	revving up your metabolism and resulting in higher calorie burn		athletes, fitness fanatics	fast	no	Balance workout with rest and
Anusara Yoga	14	fairly recent, light-hearted	physical alignment with a positive philosophy	alignment and positivity		beginners as well as advanced	slow	yes	
Bikram Yoga	10	done in a hot and humid sauna like room (105 deg) with predefined series of poses-26 postures & 2 breathing (Bikram Choudhury)	sweaty and challenged	flexibility and detoxification		Amateurs. Those who are newer to yoga might like Bikram because of its predictable sequence.		yes (26 poses)	avoided by people with heart conditions, blood pressure issues, pregnant women, people taking certain medications, and other health issues
Anti Gravity/Aerial Yoga	9	seated poses, inversions, balancing postures and meditations — all using an aerial hammock suspended from the two hooks attached to the ceiling	relatively low-intensity work	flexibility and agility, as well as core and upper-body strength. It's also an excellent for blowing off steam and relieving stress.			slow	no	
Hatha Yoga	9	basic and classical approach to yogic breathing exercises and postures	slow and gentle			beginners and those with physical limitations	slow		
Forrest Yoga	8								

For the Poses dataset we curated information from the [Yoga Journal](#) about the benefit and cautions. The pictures of the poses too was collected from this site. We edited each pose as the background needed to be removed to be put into our visualization.

Bow Pose

Bend back into the shape of a bow to feel energetically locked, loaded, and ready to take aim.

YI EDITORS • AUG 28, 2007

2 SHARES   



Bow

Benefits:
Stimulates the organs of the abdomen and neck.

Caution:
Avoid if you have serious lower-back or neck injury.

The snapshot of the excel sheet for the poses is as below:

BODY PART	POSE NAME	Sanskrit name	IMAGE	BENEFIT	CAUTION	LINK
Brain	Big toe	Padangusthasana	big-toe-pose	Relieves stress, anxiety and mild. Helps relieve	Avoid this pose with lower b	http://www.yogajournal.com/poses/big-toe-pose
Brain	Child	Balasana	child	Relieve stress and fatigue, back and neck pain.	Avoid with diarrhea, pregnan	http://www.yogajournal.com/poses/child-s-pose
Brain	Dolphin pose		dolphin-pose	Relieves headache, insomnia, back pain, and fa	Shoulder or neck injuries, kee	http://www.yogajournal.com/poses/dolphin-pose
Brain	Downward-Facing Dog	Adho Mukha Svanasana	downward-d	Relieves headache, insomnia, back pain, and fa	Pregnancy: Do not do this po	http://www.yogajournal.com/poses/downward-facing-dog
Brain	Lotus	Padmasana	lotus-pose	Calms the brain. Traditional texts say that Padm	Intermediate to advanced po	http://www.yogajournal.com/poses/lotus-pose
Neck	Bow	Dhanurasana	bow	Stimulates the organs of the abdomen and nec	Avoid if you have serious low	http://www.yogajournal.com/poses/bow-pose
Neck	Upward Plank	Purvottasana	upward-plan	Strengthens the arms, wrists and legs.	With a neck injury, support th	http://www.yogajournal.com/poses/upward-plank-pose
Neck	Locust	Salabhasana	locust	Improves posture	Students with neck injuries sl	http://www.yogajournal.com/poses/locust-pose
Neck	Low Lunge	Anjaneyasana	low-lunge	Strengthens your knees. Helps build mental fo	Avoid with Heart problems.	http://www.yogajournal.com/poses/low-lunge
Neck	Sphinx		sphinx	Strengthens the spine	Avoid with Back injury, head	http://www.yogajournal.com/poses/sphinx-pose
Back	Cow	Bitilasana	cow	Provides a gentle massage to the spine and bel	With a neck injury, keep the l	http://www.yogajournal.com/poses/cow-pose
Back	Chair	Utkatasana	chair	Strengthens the ankles, thighs, calves, and spin	Avoid with headache, insomn	http://www.yogajournal.com/poses/chair-pose
Back	Cat	Marjaryasana	cat	Stretches the back torso and neck	With a neck injury, keep the l	http://www.yogajournal.com/poses/cat-pose
Back	Extended Triangle	Utthita Trikonasana	extended-tri	Relieves backache, especially through second t	High blood pressure: Turn th	http://www.yogajournal.com/poses/extended-triangle-po
Back	Firefly	Tittibhasana	firefly	Tones the belly. Improves sense of balance.	Avoid with shoulder, elbow, v	http://www.yogajournal.com/poses/firefly-pose
Heart	Bound Angle	Baddha Konasana	bound-angle	Stimulates the heart and improves general circ	Groin or knee injury: Only pe	http://www.yogajournal.com/poses/bound-angle-pose
Heart	Bridge	Setu Bandha Sarvangasa	bridge	Reduces anxiety, fatigue, backache, headache,	Neck injury: avoid this pose u	http://www.yogajournal.com/poses/bridge-pose
Heart	Cobra	Bhujangasana	cobra	Therapeutic for asthma. Opens the heart and l	Carpal tunnel syndrome	http://www.yogajournal.com/poses/cobra-pose
Heart	Bow	Dhanurasana	bow	Stimulates the organs of the abdomen and nec	Avoid if you have serious low	http://www.yogajournal.com/poses/bow-pose
Heart	Big toe	Padangusthasana	big-toe-pose	Relieves stress, anxiety and mild. Helps relieve	Avoid this pose with lower b	http://www.yogajournal.com/poses/big-toe-pose
Chest	Cobra	Bhujangasana	cobra	Therapeutic for asthma. Opens the heart and l	Carpal tunnel syndrome	http://www.yogajournal.com/poses/cobra-pose
Chest	Dolphin pose		dolphin-pose	Relieves headache, insomnia, back pain, and fa	Shoulder or neck injuries, kee	http://www.yogajournal.com/poses/dolphin-pose
Chest	Cow	Bitilasana	cow	Provides a gentle massage to the spine and bel	With a neck injury, keep the l	http://www.yogajournal.com/poses/cow-pose
Chest	Chair	Utkatasana	chair	Strengthens the ankles, thighs, calves, and spin	Avoid with headache, insomn	http://www.yogajournal.com/poses/chair-pose
Chest	Cat	Marjaryasana	cat	Stretches the back torso and neck	With a neck injury, keep the l	http://www.yogajournal.com/poses/cat-pose
Belly	Bow	Dhanurasana	bow	Stimulates the organs of the abdomen and nec	Avoid if you have serious low	http://www.yogajournal.com/poses/bow-pose
Belly	Bridge	Setu Bandha Sarvangasa	bridge	Reduces anxiety, fatigue, backache, headache,	Neck injury: avoid this pose u	http://www.yogajournal.com/poses/bridge-pose
Belly	Eight Angle	Astavakrasana	eight-angle	Strengthens the wrists and arms. Tones the abd	Avoid this pose if you have ar	http://www.yogajournal.com/poses/eight-angle-pose
Belly	Fire Log	Agnistambhasana	fire-log	Stretches the hip and groins.	Avoid this pose in case of low	http://www.yogajournal.com/poses/fire-log-pose
Belly	Fish	Matsyasana	fish	Improves posture	Avoid incase of high or low b	http://www.yogajournal.com/poses/fish-pose

Tools

1. Data cleaning

For curating information about the poses and the types of the Yoga , we used Excel. We also edited the pictures of the poses using this [online tool](#) to make the background transparent. The gif was edited using this [online tool](#).

2. Tableau

We started visualizing our data using simple bar charts in tableau to get a sense of what all data do we have and what insights are we getting from these charts. Once we had simple bar charts, we tried to explore the advanced techniques and features of Tableau to come up with donut charts, dashboards, stories and so on for our final visualizations.

3. D3.js

We used D3.js for “Types of Yoga” and “Poses” visualizations. We found some inspiring visualizations (as mentioned in Related Work) and integrated our data as well as other interactions like drop down, highlights, description box and images using Javascript, HTML, CSS and D3.

4. Illustrator

We used illustrator to convert color and size of images and icons that we used in our final visualizations as per our theme and color palettes. We took help of tools like [Paletton](#) and [Color Picker](#) to choose our color palettes. We had also used illustrator for exploration like creating Types of Poses legend.

5. Website

The website was created using HTML, Bootstrap and CSS. We used a [template](#) for modern look and feel and responsive design.

Steps to accomplish goals

Our end goal for this visualization was to present information about Yoga in an engaging way. While some of the aspects that we wanted to shed light on had supporting quantitative data, others were more qualitative in nature. Our focus while working on different sections of the project was to organize all our data and information creatively into visualizations which were engaging, made the exploration effortless and information easy to grasp so that users are able to have fun while exploring and take away something new that they did not know before. Last but not the least, we tried to embody the spirit of yoga in our visualizations whenever possible (discussed in the sections wherever applicable). The following sections get into details of each of the sections -

1.Introduction

We wanted to get the visualization started with a basic introduction to Yoga. The key information we wanted to convey was the meaning of Yoga and the three aspects of yoga – Physical, Mental and Spiritual and how these were connected. In our user research, in addition to a general quest to learn more about Yoga, we had come across quite a bit curiosity and confusion about the aforementioned aspects of Yoga. While the curiosity was to learn more about each aspect and how they were connected if at all, the confusion included but was not not limited to the following - Isn't yoga just about the poses? what part was the mental part of yoga? how were these aspects related? is the spiritual aspect related to religion? etc.

Most of the data we had for this section was qualitative information. We wanted to tell a story and we remembered that Isotypes can be used to tell a story. Hence, we used

isotypes to convey the three aspects – Physical, Mental and Spiritual. We included text descriptions below each of them to add more context and detail.

The screenshot shows a website with a dark header. On the left is the logo 'Yoga!'. The navigation menu includes 'INTRODUCTION' (highlighted in yellow), 'PROFILE', 'MOTIVATION', 'LOCATION', 'TIMING', 'TYPES', and 'POSES'. The main content area has a light beige background with the title 'What is Yoga?'. Below the title is a paragraph: 'Yoga is an art and science of healthy living. The word "Yoga" is derived from the Sanskrit root "Yuj", meaning "to join" or "to yoke" or "to unite". As per Yogic scriptures the practice of Yoga leads to the union of individual consciousness with that of the Universal Consciousness, indicating a perfect harmony between the mind and body, Man & Nature.' This is followed by another paragraph: 'Yoga is a group of physical, mental, and spiritual practices or disciplines.' Below this are three columns, each with an icon and a title: 1. 'Physical' with a hand icon (mudra) and text: 'The physical aspect of yoga is comprised of postures, known as asanas. Asanas are done to harmonise the body and become aware of the different types of imbalance within the physical structure'. 2. 'Mental' with a head and gears icon and text: 'Another element of yoga is breathing exercises, called pranayama. The breath and the mind are very tightly connected, so by working on the breath you can change your mental states, and vice-versa. This can bring mental calm and clarity.' 3. 'Spiritual' with a chakra icon and text: 'The spiritual aspect of yoga entails meditation which is actually the major focus of the practice and not the asanas. Essentially, all yoga practices exist to prepare you to meditate effectively, and to support your meditation practice.'

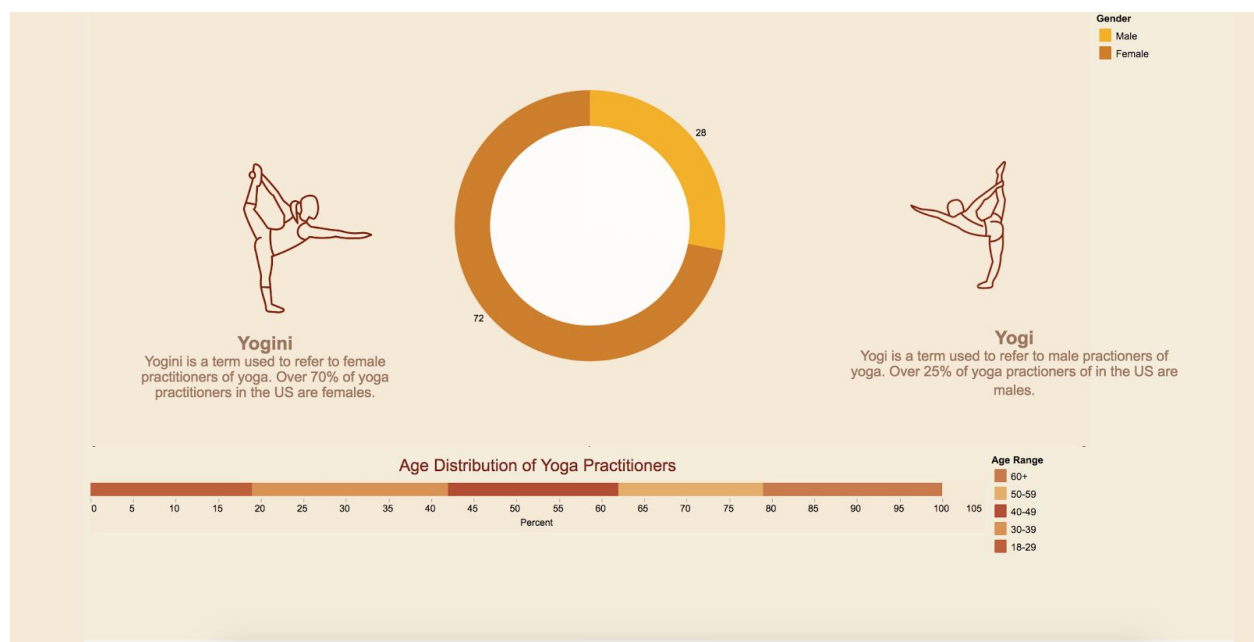
2.Profile

In this section, we wanted to share data based insights into the gender and age distribution of yoga practitioners in the US. Additionally, we wanted to get across the following terminology related informational bits about yoga practitioners – A male practitioner of yoga is called 'Yogi' and a female practitioner of yoga is called 'Yogini'.

Most of our data based visualization explorations started in tableau and this was no different. We had bar charts for the male/female data and the age distribution data. While they were both functional, we wanted to play a little bit with form and see if that made it more engaging and/or easier to grasp. Tableau affords the advantage of trying different charts with a click of a button and that made this exploration quite easy. When we used the pie chart, it seemed a bit confusing because pie charts are better suited for displaying parts of whole but we thought that the round shape captured the spirit of Yoga (the round shape aligned with the shape used to display chakras, the centers of spiritual power in human body in the human body. As a side fun fact, Kundalini Yoga is focused on arousing the spiritual energy located at the base of the spine and propagate

it through the chakras to the crown, the 7th chakra). We tried the Donut Pie Chart and through quick user testing found that it helped us circumvent the issue with Pie Charts and conveyed the point more efficiently as people were now focusing on the circumference rather than the center and the angle. We further plugged a Yogi and Yogini isotype with corresponding description that made it more informative, clearer and easy to grasp. Since, Tableau does not support Donut Charts, we referred to [this](#).

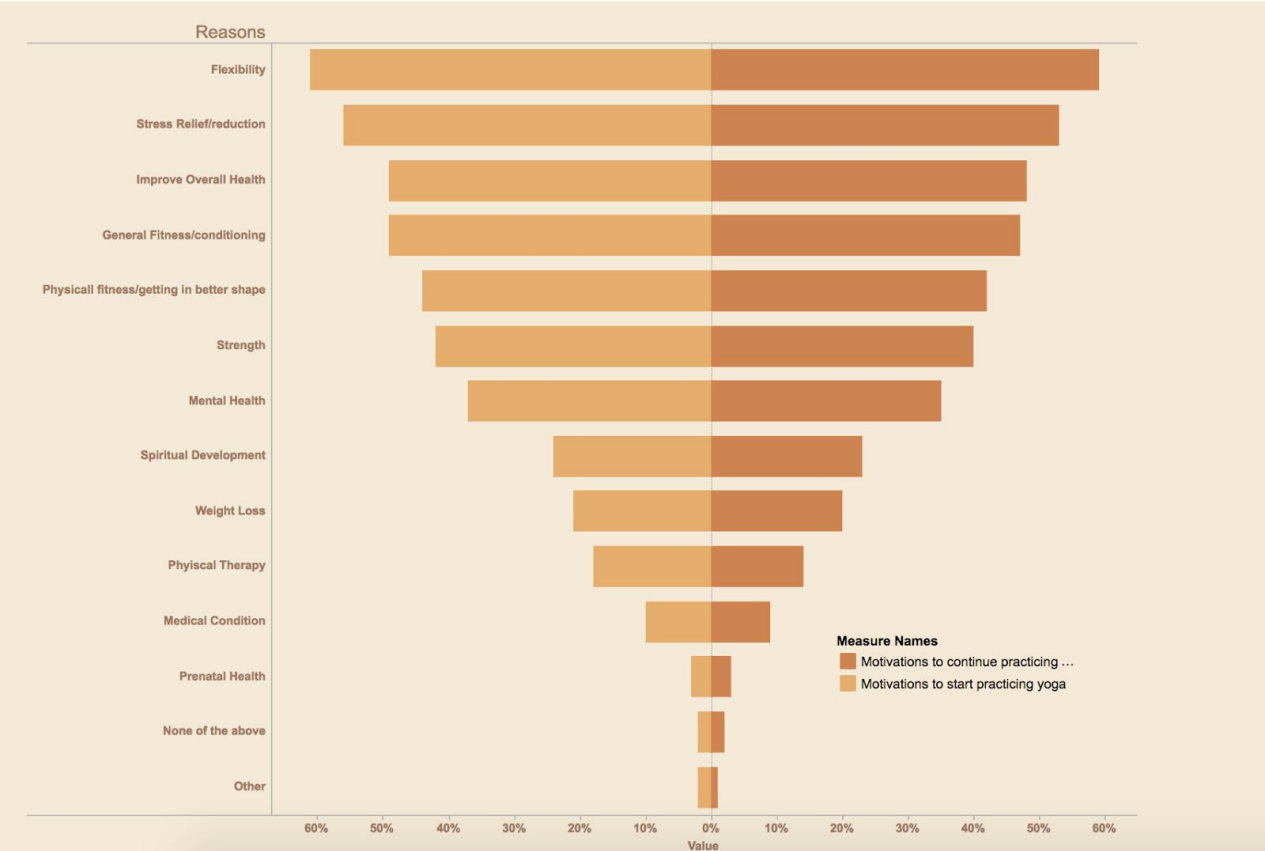
For the Age viz, tableau explorations helped us see that a stacked bar chart seemed to convey our information better as people could easily see the age distribution across the spectrum. Following is the age/gender section of our visualization –



3.Motivation

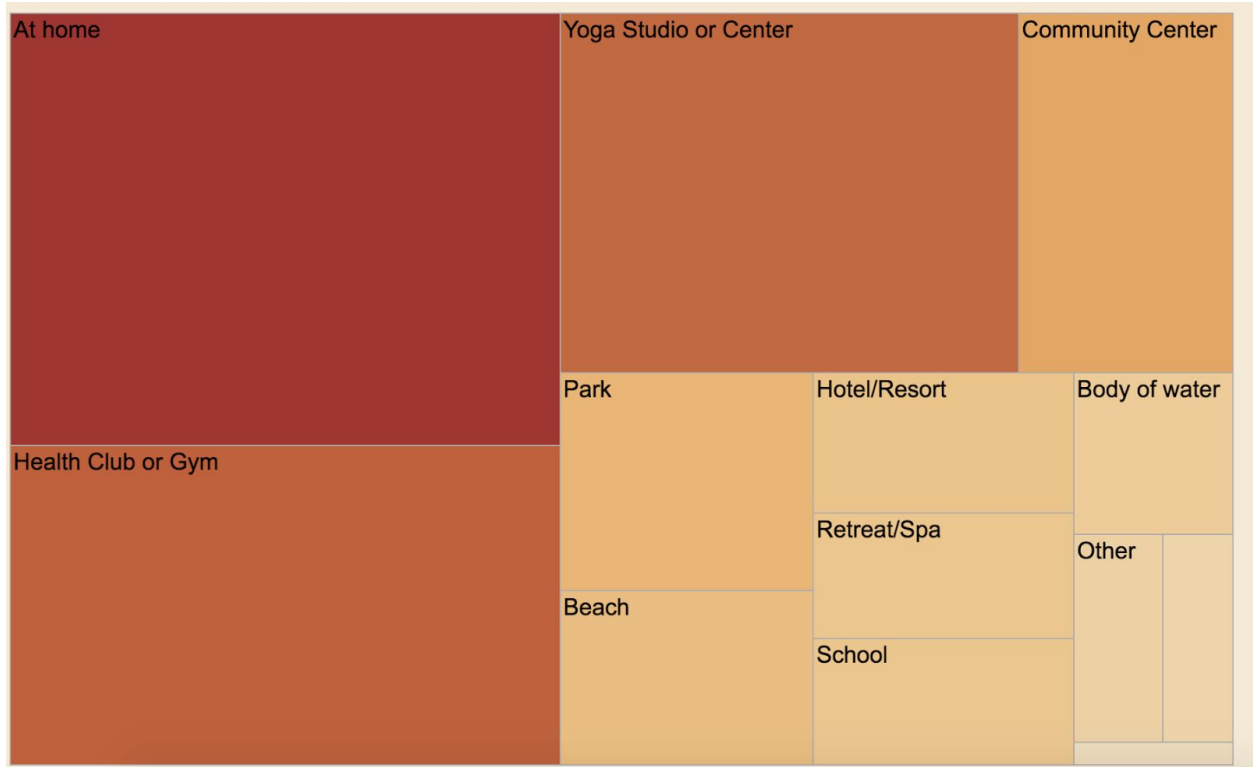
Although we found in our user research that people in general were aware of and had experienced benefits of practicing yoga but there was a range and the topic was approached with a high level of curiosity. Hence, we decided to present the following data based insights on what motivates people to start and continue practicing yoga. The basic idea that we wanted to convey was the more common and the less common motivations. Since we were not hoping the visualization to help people compare the values, we used a divergent bar chart so not being able to compare specific values across the two categories was not an issue and people were easily able to see that

some reasons are more popular than others and the trend was pretty similar across categories.



4.Location

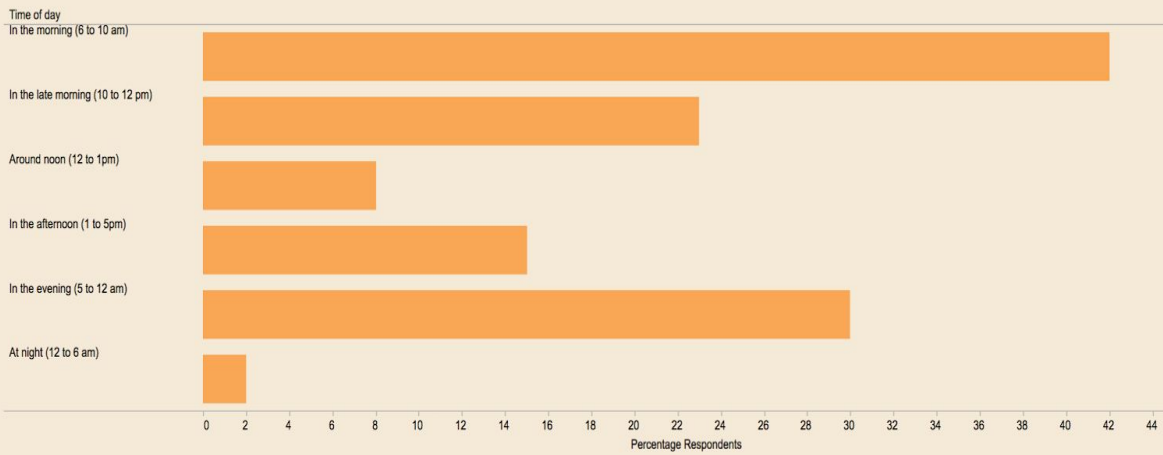
During our explorations about Yoga we learnt that while it is recommended that Yoga be done in fresh air at a clean and quiet place, yoga practitioners had adopted a range of venues to practice include doing Yoga in the vicinity of a beach or a hot spring and more interestingly in water bodies. With the following visualization we wanted to share data based insights into the venues people chose to do yoga. Based on feedback in usability sessions, we increased the font size. Instead of using the hierarchy structure of the Tree chart we used it in the spatial sense since we were depicting venues.



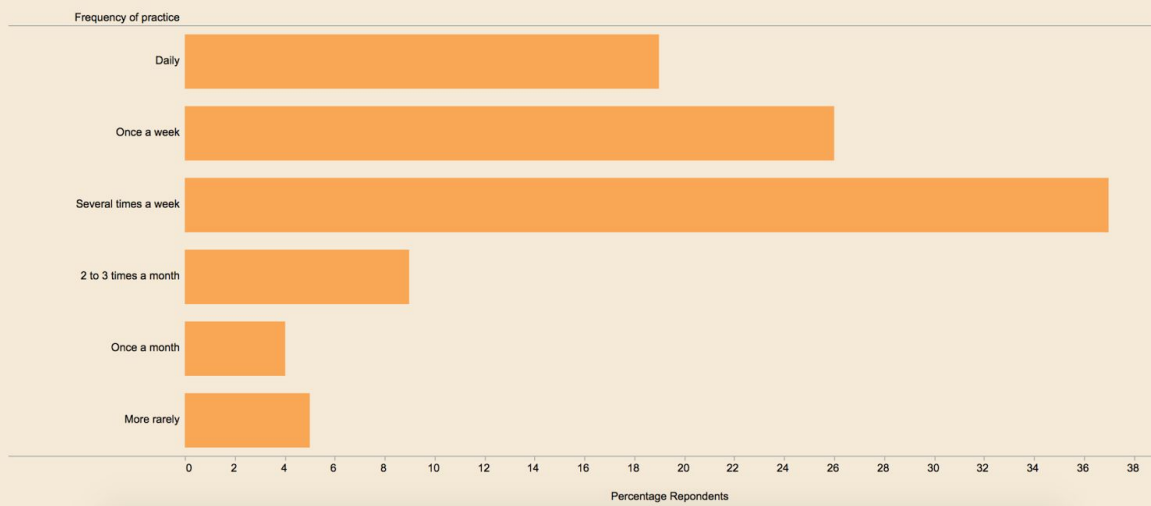
5. When, How long and How often do people do Yoga?

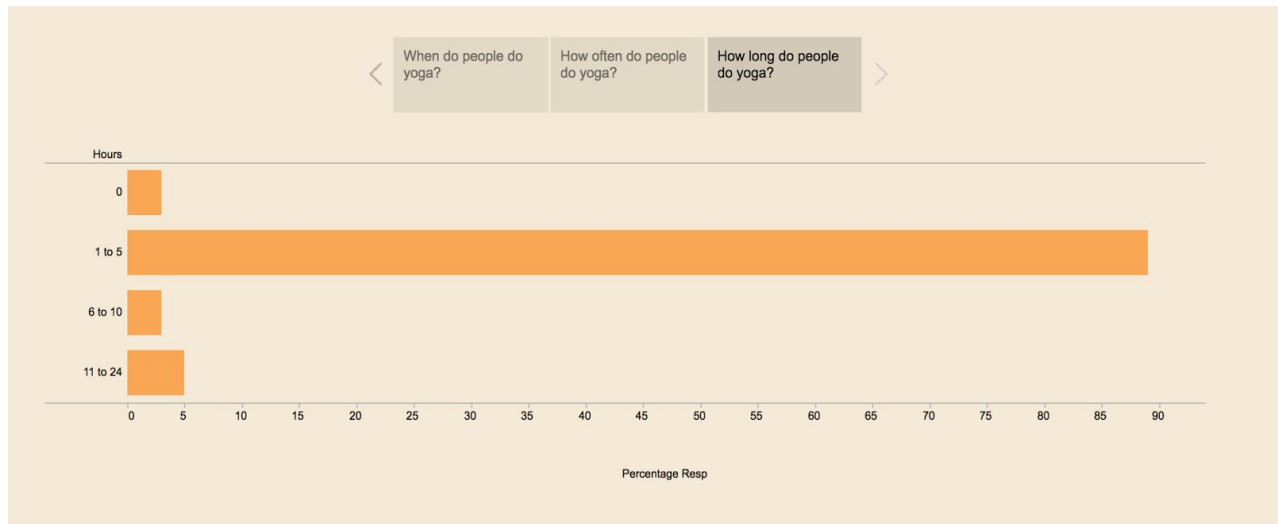
Similar to the discussion above, we learnt about best practices on the time of the day, duration and frequency of doing yoga. Since we had data related to all these aspects, we decided to put this information together as a Tableau Story. We used simple bar charts for this visualization as we thought that it conveyed the required information in a reasonable easy to grasp way. We did wish that for this section we had more granular data e.g. for how long do people do yoga, more granularity in the 1 to 5 hours range would have been nice.

< When do people do yoga? How long do people do yoga? How often do people do yoga? >



< When do people do yoga? How often do people do yoga? How long do people do yoga? >

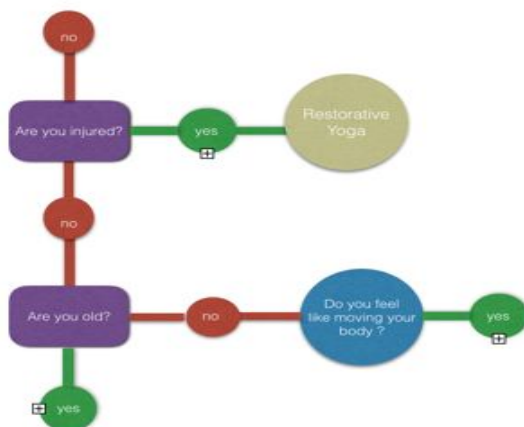




6. Types of Yoga

During our research, we found that people who practice Yoga often do not know which type of Yoga they are practicing and how beneficial it is for them or what this type is really known for. We realized that it would be very interesting information to include in our visualization and hence, we pursued this section.

Initially we had decided to use an interactive decision tree for visualizing different types of yoga similar to the screenshot below. We assumed that users would only like to know which type of Yoga would be suitable for them and hence, our initial conception was a series of Yes or No questions that users would click to eventually reach to a specific type of Yoga that would be most suitable for them.



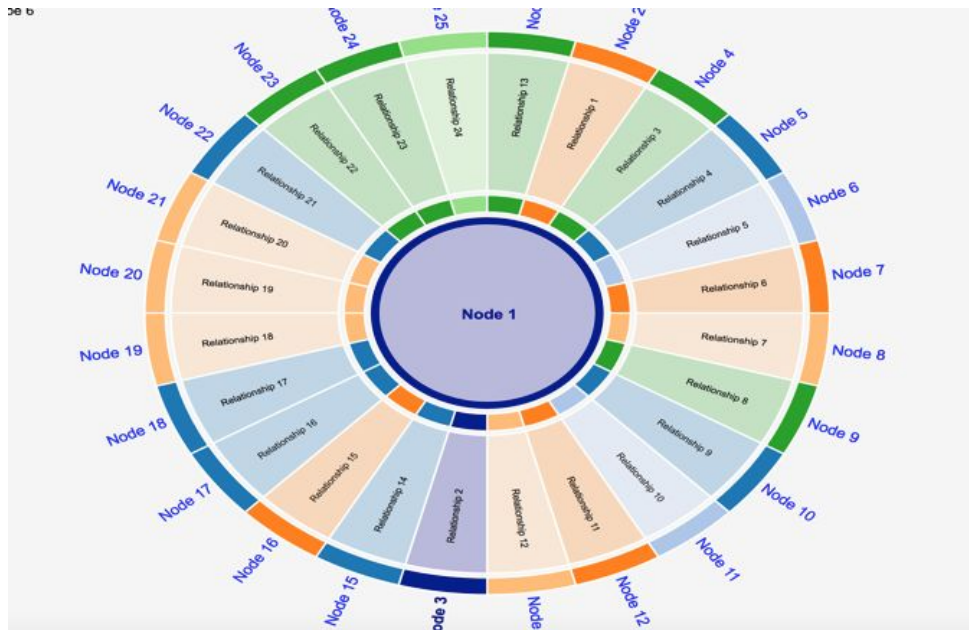
Although the idea appealed to a lot of people, but there were major loopholes in this visualization that we realized while receiving feedback during Mid-term presentation. First, this visualization had a great chance of becoming prescriptive without a solid backing of medical accuracy. Second, this visualization would not have given a holistic overview of all the types of Yoga based on several dimensions that user would like to see and decide for themselves which Yoga would fit them.

Thus, we pivoted and tried to present information about different types of Yoga based on dimensions that users could choose from.

We explored different visualizations and went through different iterations of our design starting from a simple click and popup design that would describe different types of Yoga.

Senior Yoga Explore (A)	Kundalini Yoga (A)	Beltram Yoga (A)	Kripalu Raja (A)
Prenatal Yoga (A)	Power Yoga (A)	Hatha Yoga (A)	Jivamukti Yoga (A)
Anusara Yoga (A)	Iyengar Yoga (A)	Ashtanga Yoga (A)	Het Yoga (A)

We also explored different [off-the-shelf](#) D3.js visualizations to represent Types of Yoga information. We finally found [one](#) D3.js visualization that matched our theme of Yoga and what we wanted to achieve.



This D3 radial wheel simulated the “chakras” or “wheels” or “energy centers” in Yoga and hence, we narrowed down to this visualization, figured out the code and integrated our data into the code.

We also wanted to display a brief overview of what this type is all about, some fun fact, who it is suitable for, key benefits and caution while practicing this type. Hence, we added a textbox on the side of the wheel and added an interaction. When users mouse over a particular type, information about that type is displayed on the box on the side for easy view. We rejected the idea of having a popup or tooltip, which would have disrupted the view of the entire wheel.

To differentiate different types of Yoga, we added dimensions like “Overall Type”, “Pace” and “Routine” which the user could select from the dropdown menu. When a dimension is chosen, the wheel is drawn again with the same yoga types but now differed based on a different dimension. We added a legend using color coordination and highlight feature so that users can easily comprehend which type of yoga belongs to which dimension.

Our final visualization:

Choose a dimension to view different types of Yoga:

Overall type is the type this yoga is commonly known for.

Overall Type

- Alignment
- Healing
- Hot Yoga
- Spiritual
- Vigorous Yoga



Kundalini

In this yoga, energy flow is directed towards the poses while meditation, breathing techniques, and chanting are incorporated.

Benefits:

Builds sensory awareness, enhance consciousness, and develop spiritual strength.

Suitable for:

People looking for a spiritual practice.

Caution:

Guidance of a qualified teacher is recommended as Kundalini moves through the body and the nervous system adjusts to this dramatic increase of psychic energy.

Choose a dimension to view different types of Yoga:

Pace means whether the pace of the yoga contains fast or slow movements.

Pace

- fast
- slow

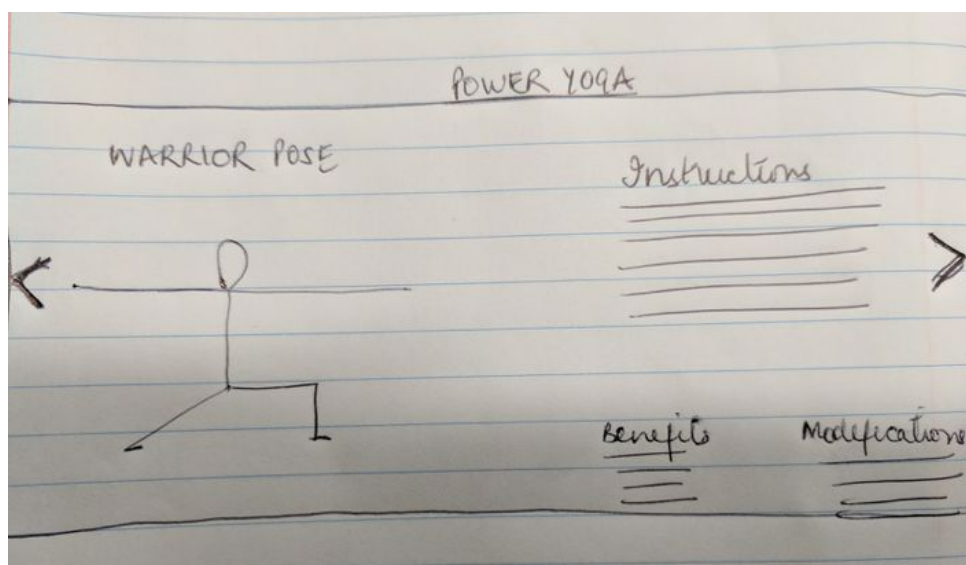


Mouse over types to know more!!

We understand the limitation of this visualization. If a user wants to see two or more dimensions together, say a fast pace Alignment yoga, s/he would not be able to see it all together.

7. Poses by Anatomy

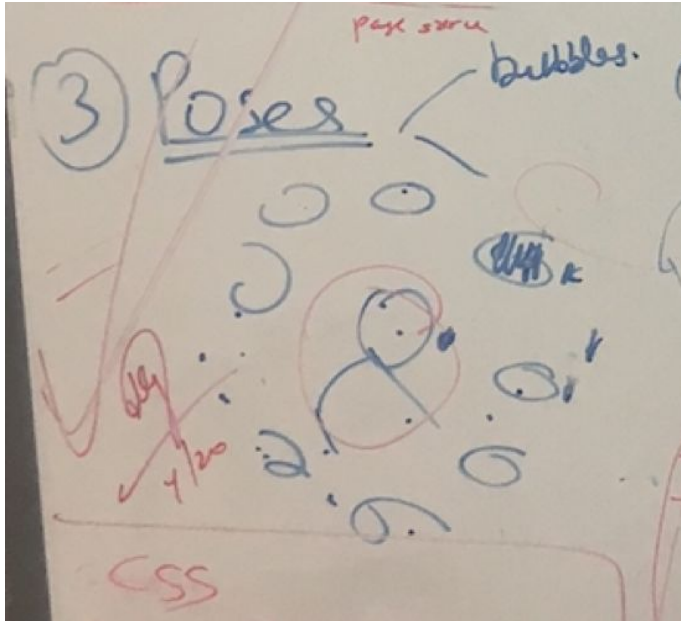
Initially we had decided to show all the poses within a particular type of yoga so that once users get comprehensive information about what type of yoga is suitable for them; they can start exploring the poses within that type. We were also thinking of providing instructions for the poses with the images and other modifications of the poses. All this data was available on Yoga Journal [website](#).



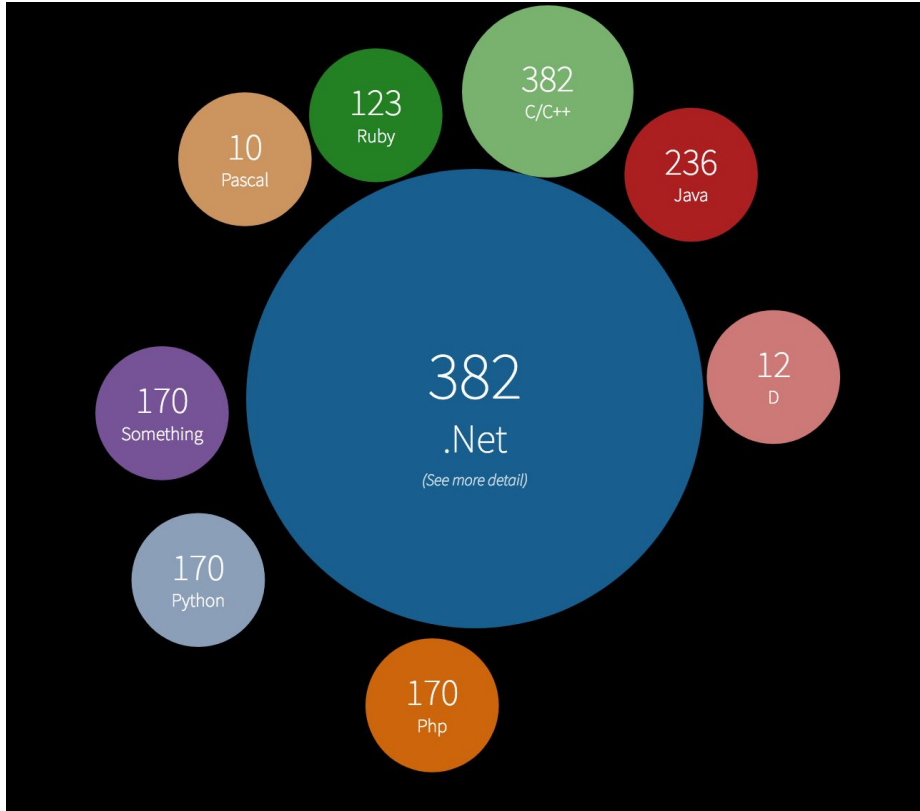
However, our goal was not to be prescriptive or suggestive and hence, we changed this visualization to be informative.

From our research, we found that a particular pose is not necessarily tied to a specific type of yoga. In fact, poses are more closely tied to anatomy (pose focusing on a particular part of a body) or benefits that they provide. We also found that physical aspect of Yoga is most popular in the United States and hence, we decided to visualize different poses by anatomy.

Next, our task was to come up with a new visualization for this section.



We really liked the idea of bubbles depicting poses around a human body (in the center) as shown above but we didn't have enough time or expertise to create a visualization from scratch. Hence, we explored different [off-the-shelf](#) D3.js visualizations to represent "Poses by Anatomy" information. We wanted to have the circular shape for the yoga spirit/chakras and movement corresponding to the asanas and this visualization seemed to capture both the elements.



After a lot of research, we found a visualization that closely resembled what we were trying to achieve. By clicking on each bubble, the bubble would move in the center, zoom out and display information about that pose. Integrating our data in this visualization and adding pictures of poses into bubbles was quite challenging but we finally accomplished it.

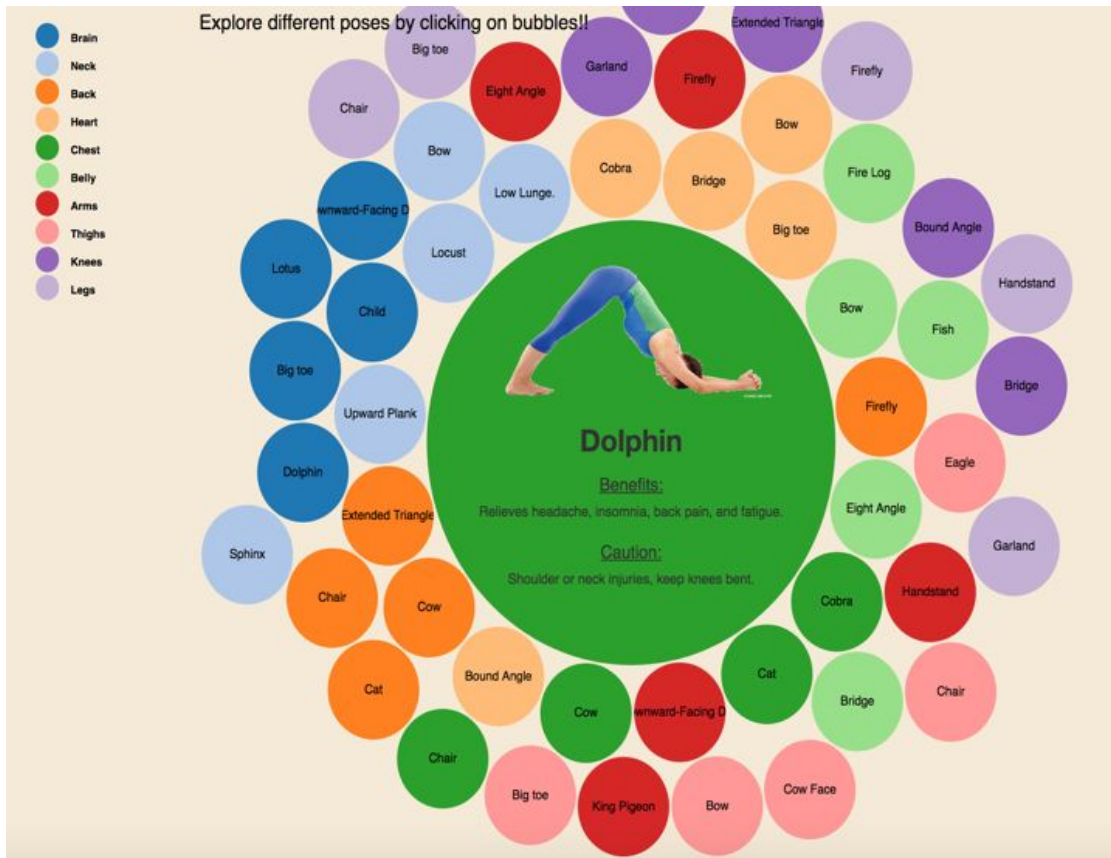
We also thought of using the size of bubbles to depict the popularity of the pose but we rejected that idea as it was a very subjective information and could mislead people.

For legend, we tried to use human body as below:



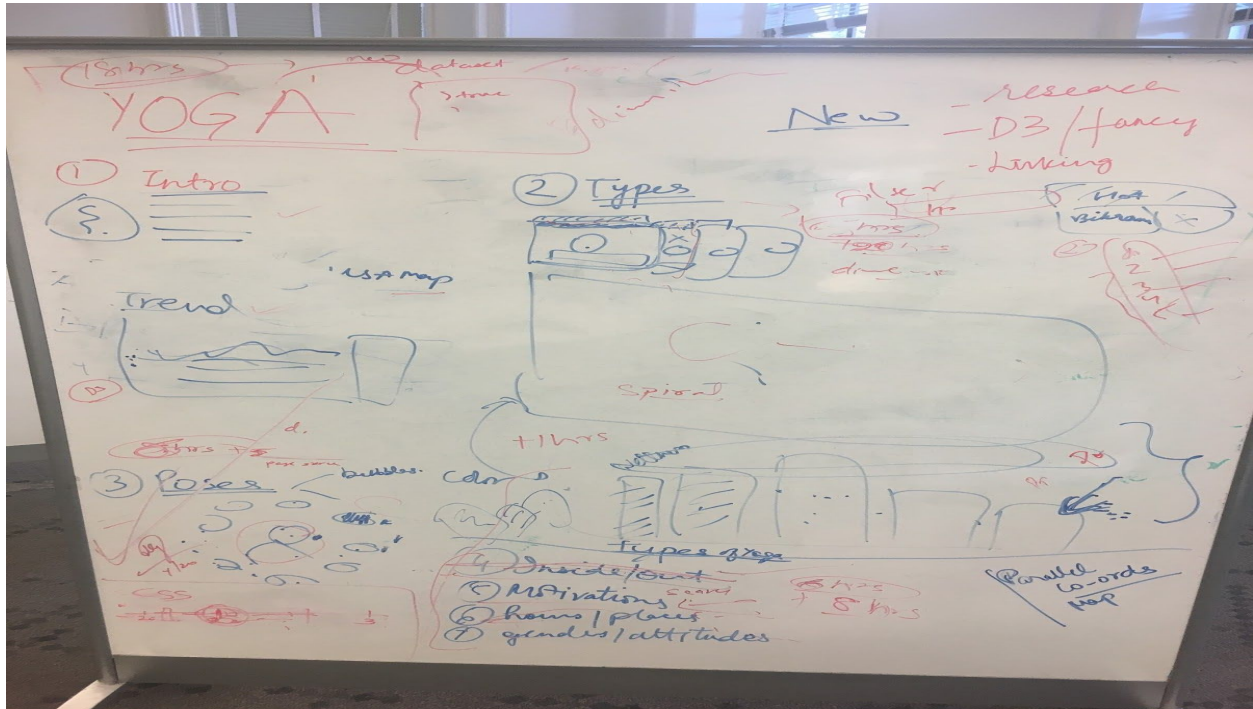
However, this legend seemed to provide redundant information and we were not able to add any interaction on the image. Hence, we rejected this and went ahead with a simple legend.

Our final visualization:



8. Website and content development

For the website and narrative, we used whiteboard to go over the flow and structure of the entire visualization as below.



Once we had all our visualizations, we used a template to plug our visualizations (including tableau dashboards) and narrative. We used CSS and HTML for alignment, text size and color. We went through many iterations to improve the overall look and feel of the website.

User Testing Results

The showcase proved to be a very helpful venue for us to get feedback. It facilitated a natural unmoderated feedback on the engagement front which would have been biased in a moderated setup. We encountered the same intrigue, fascination and curiosity about the topic as we had done during our user research and our visualization was able to address the most common questions, share additional information and pique interest. Interestingly, some users left motivated to explore more. While our goal was to share information in an engaging and easy to grasp way, being able to motivate people was a cherry on the top and very rewarding.

During the showcase, we realized that we needed to increase the font size as the users were looking at it from a distance. We followed up with more usability tests and the details from that are discussed in the following sections.

Apart from the feedback we received during the showcase, we conducted a separate user testing for 5 users (audio files attached in the appendix). During this round of testing users gave their feedback and were also asked questions such as the below:

- Which is the third most popular place for practicing yoga?
- Could you tell me a caution/benefit of power Yoga?
- Could you tell which poses are associated with the heart?
- Which is time of the day is most common for practicing yoga?

Below are the key findings:

- Most of the users agreed that the title Yoga picture and the color palette fit really well with the serene theme of Yoga.
- The flow of the story along with the visualizations was appreciated by most and the information presented by text at the start of each section was appreciated by most who said that it was useful.
- For the motivations chart some users mentioned that they would have liked it to be bar charts placed side by side for easier comparison. While we agree, we still kept it as horizontal charts since our focus was to show that reasons for the starting and continuing yoga is usually the same thus symmetrical except for the reason of becoming a Yoga teacher which is a reason only for continuing Yoga.
- For the Treemap displaying the locations where yoga was generally practiced, it was not intuitive for the users at first, but once they made sense of the chart they were able to answer the question about the third most popular place to practice Yoga.
- The visualization displaying the Yoga types was very informative because of the dominant feature along with the caution and benefits provided. The users liked the interactivity and color choice in this chart. They were able to find the benefit / caution of a certain type of Yoga.
- The visualization containing the poses was appreciated by most. They felt that the picture of the poses along with the other information presented was really useful and really liked interacting with this visualization. They were also able to answer which poses were associated with the different body parts.
- The fun ending of the Yogi performing Surya Namaskar was also liked by most.

The overall consensus was that the site was informative and engaging which was one of our main goals and motivation behind working this project. Almost all users said they learnt something new about Yoga whether it was that yoga practitioners are called Yogis and Yoginis or about the different types and poses along with their benefits and cautions.

Work distribution table

TASK	ASSIGNED TO
General research on Yoga	Divya/Shrestha/Neera
Tableau charts – EDA and research	Neera
Yoga Types – EDA and research	Neera/Divya
Yoga Poses – EDA and research	Shrestha/Divya
Tableau charts – data collection and cleaning	Neera
Yoga Types - data collection and cleaning	Divya/Neera
Yoga Poses - data collection and cleaning	Shrestha
Story development and research	Neera
Tableau – Profile	Neera/Divya
Tableau – Where	Neera /Divya
Tableau – When, How long and How often?	Neera/Divya
Tableau - Motivations	Neera/Divya
D3 Yoga types visualization	Divya
D3 Yoga poses visualization	Divya/Shrestha
Web development and integration	Divya/Shrestha/Neera

User testing	Shrestha
Report Write-up	Divya/Shrestha/Neera

Appendix

Following is the google drive link to the Usability Testing sessions audios -
<https://drive.google.com/drive/folders/0B9qXJ8At5iXuZjVSSkc4WW5sd00?usp=sharing>