



WATCH-IT

Desert Shadows Middle School

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PROBLEM STATEMENT

- Interview with special education specialist
- Concluded there was an inequity in the way people acknowledged the needs of the special education population
- Population suffers with hardships, such as sensory overloads

OBJECTIVE

- Provide caretakers with a proactive tool that notifies them when there might be a sensory overload about to happen
- Detect Heart Rate spikes
- Provide real time heart rate
- Record and save heart rate
- Send notifications to caretakers

USER REQUIREMENTS

- Download app on phone
- Pair app to smart watch
- Different watch straps made of different materials and designs for sensory issues

DESIGN PROCESS

- Interview with Special Education teacher at DSMS
- Development of our idea
- Create demo app
- Apply code to Android Studio and create app

PROTOTYPE DETAILS

- Scan the QR code or go to <https://sites.google.com/nusd.k12.az.us/dsms-nedc-watch-it>
- Enter name and click connect
- Heart rate will appear below name
- When heart rate spikes, an alert will trigger a sound and display who the alert was sent to
- The app will record when the heart rate spiked

CONCLUSION

- Developed the demo app
- Need to apply it to smart watch
- Test on targeted population
- Collect data and make iterations

SOURCE CODE

- HTML
- Kotlin
- Android Studios

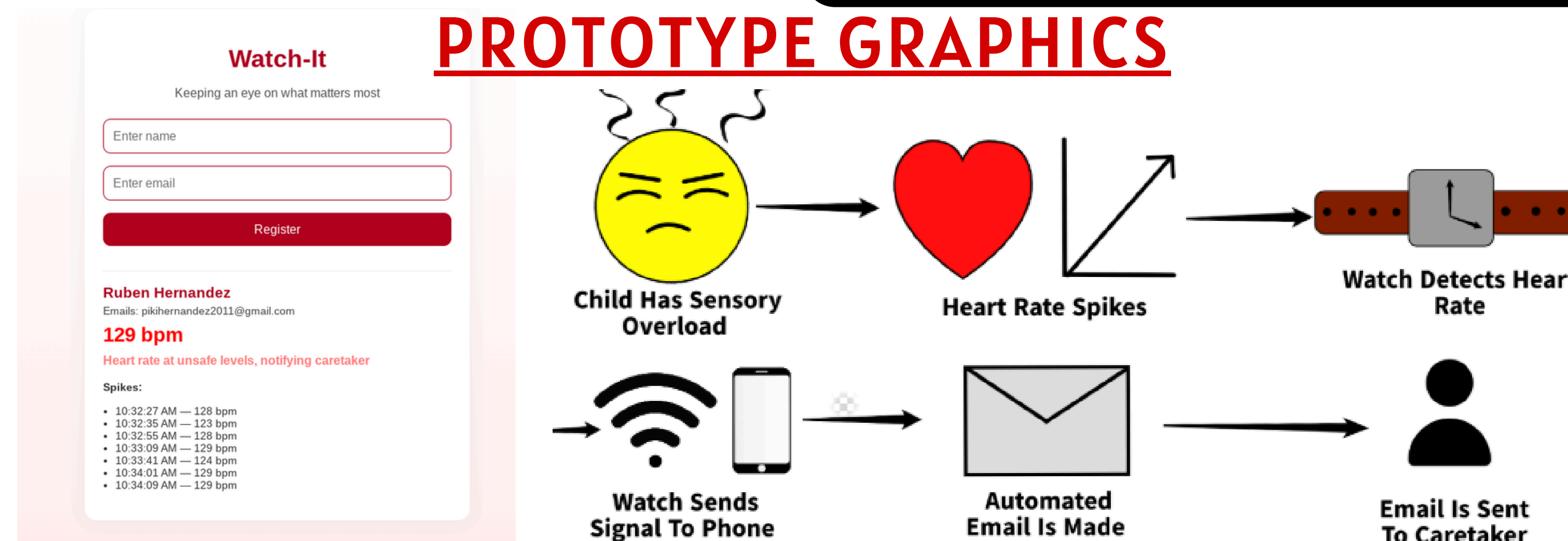
RESULTS

- Created demo app
- Demo app approved by client, Mr. Cruz
- Code ready for installation on smart watch

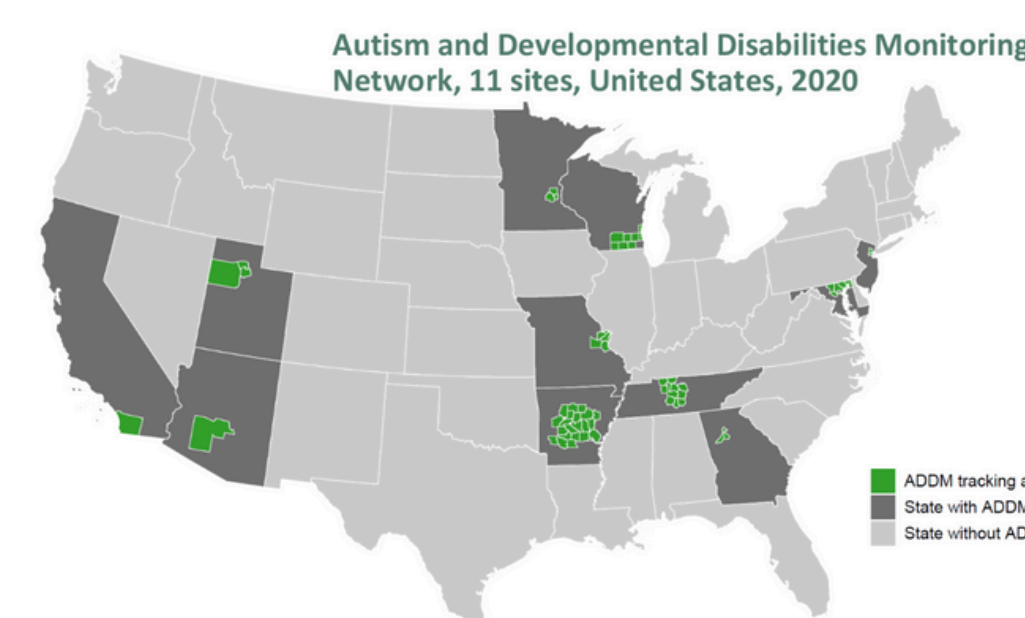
CITATIONS

- Mr. Robert Cruz, Special Education specialist
- Mr. John Kandikatla, Coding teacher
- Jose Calixtro, Coding
- nationalautismassociation.org
- CDC.gov

PROTOTYPE GRAPHICS



VISUAL DATA 1



VISUAL DATA 2

1	year	birth year	Number of ADDM Sites Reporting	Combined Prevalence per 1,000 Children (Range Across ADDM Sites)	About 1 in x child
2	2020	2012	11	27.6	1 in 36
3	2018	2010	11	23	1 in 44
4	2016	2008	11	18.5	1 in 54
5	2014	2006	11	16.8	1 in 59
6	2012	2004	11	14.5	1 in 69
7	2010	2002	11	14.7	1 in 68
8	2008	2000	14	11.3	1 in 88
9	2006	1998	11	9	1 in 110
10	2004	1996	8	8	1 in 125
11	2002	1994	14	6.6	1 in 150
12	2000	1992	6	6.7	1 in 150