

# Deliverable 1

## Team Topic Presentation

### SEXUALLY TRANSMITTED DISEASES INFORMATION APP

Across Board Champions

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CS6440: Introduction to Health Informatics

February 17<sup>th</sup>, 2019

**Georgia  
Tech**  
CREATING THE NEXT



## Video Link to Presentation

<https://youtu.be/hHjffaleX4U>

# Agenda

- Introduction
- Research
  - Market Context
  - Needs
  - Research Methods
- Business Case
  - Problem Description
  - Target Population
  - Benefits
  - Proposed Solutions
- Gantt Chart
- Conclusion

# Introduction: Sexually Transmitted Diseases

- Amongst the most common infectious disease in USA.
- Millions of New infections occur every year.<sup>1</sup>
- Cause Mild or No symptoms
  - Possible to have an infection and not know it.
- A general term to categorize various diseases such as:
  - Bacterial Vaginosis, Chlamydia, Gonorrhea, Hepatitis, Herpes etc.
- Can affect both men and women.<sup>2</sup>
  - Consequences can be more severe for women.
- Bacterial, Yeast or Parasitic STDS can be treated with Anti-biotics
- No known cure for STDs caused by virus, although disease can be kept in control with medicines.

1. <https://www.cdc.gov/std/general/default.htm>

2. <https://medlineplus.gov/sexuallytransmitteddiseases.html>

# Research

- Market Context:
  - Lots of information & assessments available online on STDs
    - Problem is this information is scattered and disorganized
  - More than 20 kinds of STDs, with multiple complexities such as pregnancy
  - The onus of finding and digging through information is on the patient
- Needs:
  - A one-stop shop dedicated for STDs:
    - Initial self-diagnostics based on patient reporting their symptoms and profile.
    - Appointment scheduling
    - Reminders on lifestyle and medicines
- Research method
  - Online research of current available web and mobile applications
  - Research existing surveys and research to identify current issues

# Business Case

- Problem:

- STDs Affect an estimated 20 million men and women in US each year.
- Treatment cost of STDs is in excess of \$14 billion in US each year.
- Wide Variety: More than 20 STDs have been identified

- For whom?

- Predominantly Youth Ages 15-24:
  - Account for half of the 20 million new STDs that occur each year.
  - The U.S. pregnancy rate among youth aged 12–19 years is one of the highest in the developed world.
  - 46% of high school students in 2009 had ever had sex<sup>1</sup>.
- Can be used by other age groups as well.

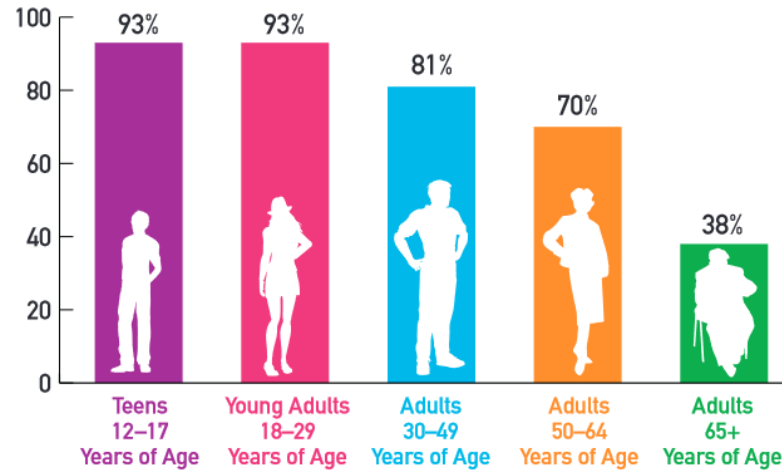
1.. <https://www.cdc.gov/std/life-stages-populations/adolescents-youngadults.htm>



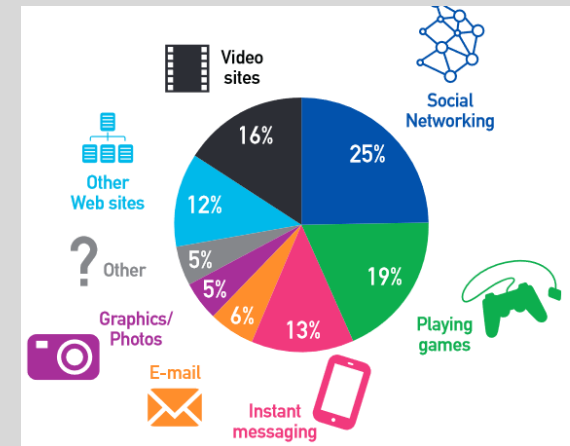
# Discussion on Target Population

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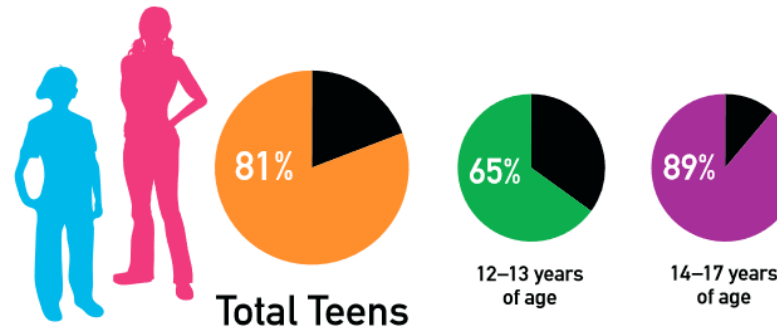
Kachur, R., Mesnick, J., Liddon, N., Kapsimalis, C., Habel, M., David-Ferdon, C., Brown, K., Gloppen, K., Tevendale, H., Gelaude, D.J., Romero, L., Seitz, H., Heldman, A. B., Schindelar, J. (2013). Adolescents, Technology and Reducing Risk for HIV, STDs and Pregnancy. Atlanta, GA: Centers for Disease Control and Prevention.



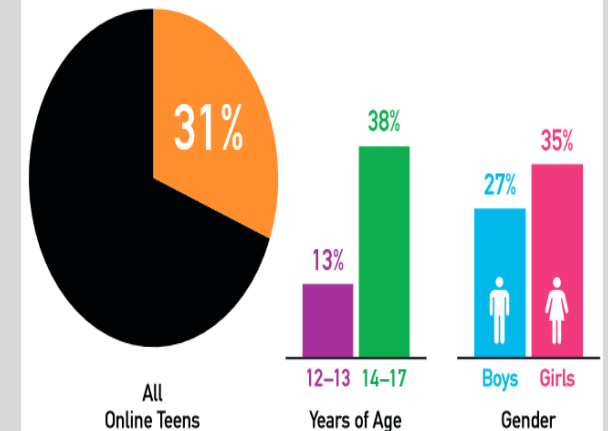
Who's online? The internet by age groups.



Proportion of recreational computer time 8-18 years of age spend in various activities.



% of online teens on social network sites



Teens searching for general health information online.

# Business Case

- Benefits to End User

- Easy availability of resources and education for the public.
- Online interface, giving personalized anonymous guidance to users.
- Improved time to patient diagnosis and treatment of STDs
- Drive behavioral change in responsible attitude towards STDs.

- Solutions

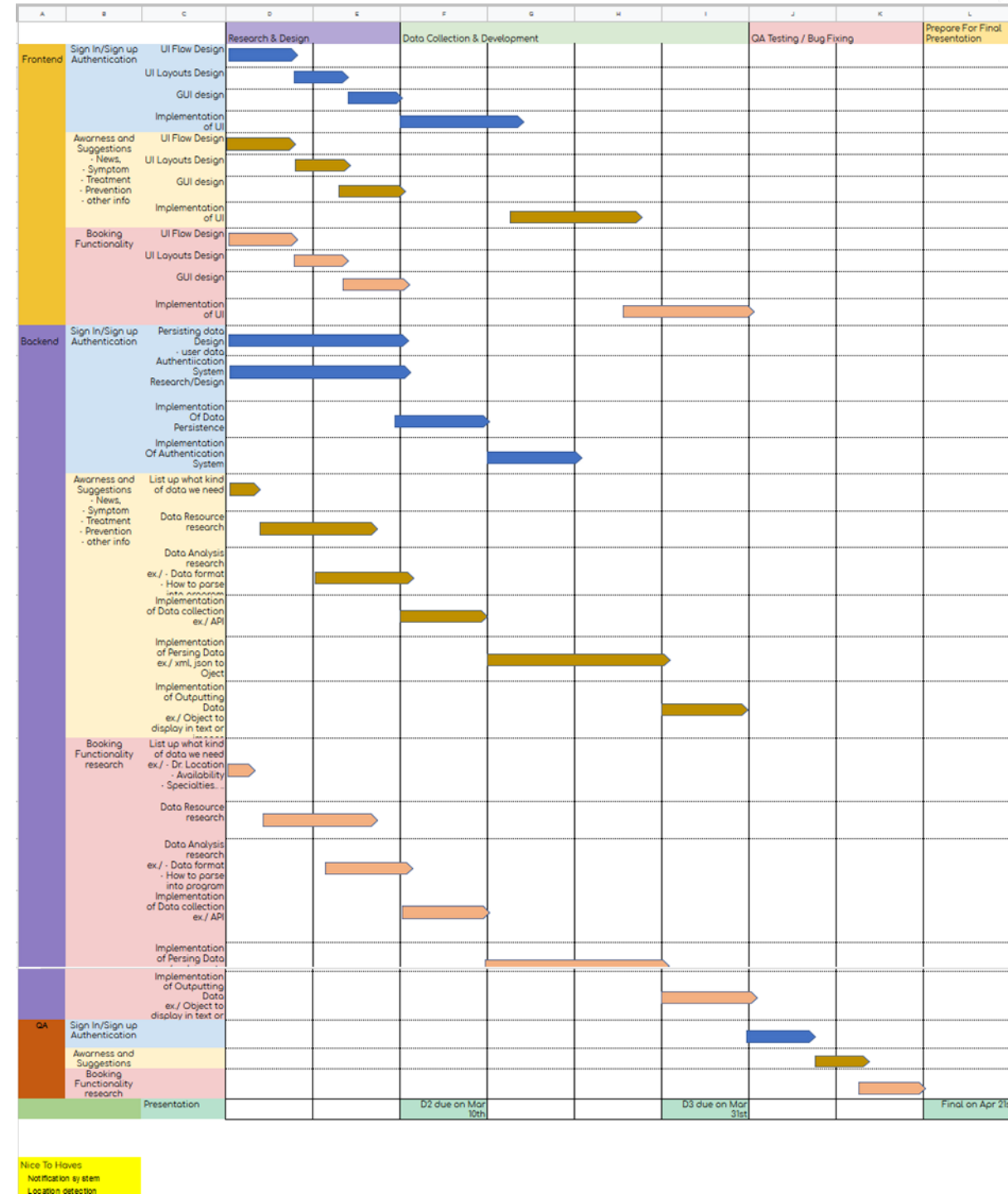
- Daily notification regarding information about different STDs as well as ways to prevent that
- Interactive self-diagnose tool and suggested treatment plans
- Doctor appointment system
- Testing recommendation



# Data Sources for Solution

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Daily news                           | <a href="https://www.cdc.gov/std/news.htm">https://www.cdc.gov/std/news.htm</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Diagnose                             | <a href="https://www.cdc.gov/std/general/default.htm">https://www.cdc.gov/std/general/default.htm</a><br><a href="https://www.health.state.mn.us/diseases/index.html">https://www.health.state.mn.us/diseases/index.html</a><br><a href="https://www.calculators.org/health/std-risk.php">https://www.calculators.org/health/std-risk.php</a><br><a href="http://www.sfcityclinic.org/stdbasics/stdchart.asp">http://www.sfcityclinic.org/stdbasics/stdchart.asp</a><br><a href="https://www.stdcheck.com/std-test-recommender.php">https://www.stdcheck.com/std-test-recommender.php</a><br><a href="http://erepository.uonbi.ac.ke/bitstream/handle/11295/30038/Main%20article.pdf?sequence=1">http://erepository.uonbi.ac.ke/bitstream/handle/11295/30038/Main%20article.pdf?sequence=1</a><br><a href="https://www.hl7.org/fhir/practitioner.html">https://www.hl7.org/fhir/practitioner.html</a> |
| Treatment                            | <a href="https://www.cdc.gov/std/tg2015/2015-wall-chart.pdf">https://www.cdc.gov/std/tg2015/2015-wall-chart.pdf</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Testing/<br>Doctor<br>recommendation | <a href="https://www.cdc.gov/std/prevention/screeningreccs.htm">https://www.cdc.gov/std/prevention/screeningreccs.htm</a><br><a href="https://gettested.cdc.gov/search_results">https://gettested.cdc.gov/search_results</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Related apps                         | <a href="https://www.stdcheck.com/">https://www.stdcheck.com/</a><br><a href="https://www.stdlabs.com/">https://www.stdlabs.com/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

# Gantt Chart



Nice To Haves  
Notification system  
Location detection

D2 due on Mar 10th

D3 due on Mar 31st

Final on Apr 21st

# Conclusion

- Although health information readily available, information on STDs not available in a personalized way, based on individuals
- Adolescents rely on cellphones and internet for many of their activities, including health information
- A solution to be developed that allows users to:
  - Get information on STDs in a centralized place
  - Book appointments based on STD with a doctor specializing in that issue.