

# OPEN PROFESSIONAL GROUP

SOFTWARE ENGINEERING INTERNSHIP





WHAT IS OPG?



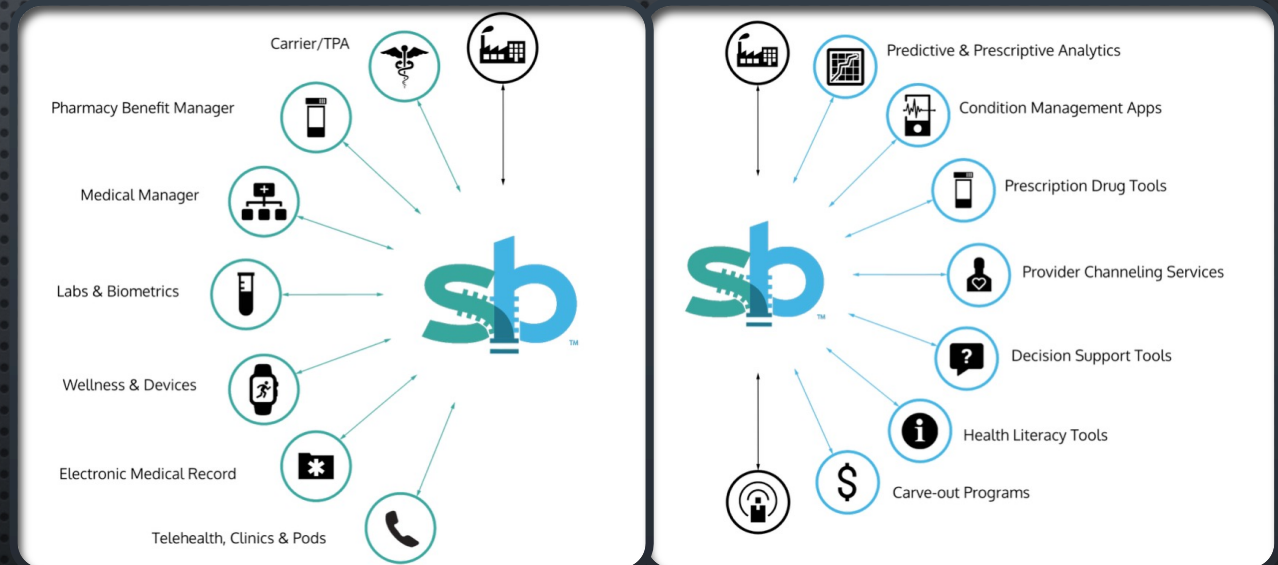


SWITCHBRIDGE



- SPRINGBUCK IS A HEALTH INTELLIGENCE COMPANY
- THEY NEED TO GET DATA FOR THEIR CLIENTS FROM A VARIETY OF DIFFERENT INSURANCE COMPANIES
- DATA FORMATS BETWEEN DIFFERENT INSURANCE COMPANIES ARE NOT STANDARD
- SWITCHBRIDGE INGESTS DATA FROM OVER 100 HEALTHCARE COMPANIES, CONVERTS IT TO A STANDARD FORMAT AND THEN EXPORTS THE DATA SPRINGBUK NEEDS IN WHATEVER FORMAT SPRINGBUK WOULD LIKE

## BUSINESS MODEL EXAMPLE





# OFFER

- AT THE END OF LAST SUMMER, I WAS READY TO FINISH MY INTERNSHIP WITH THEM AND HEAD BACK TO SCHOOL
- THE LEAD SOFTWARE ENGINEER OF OUR TEAM PULLED ME ASIDE AND ASKED IF I WOULD BE WILLING TO STAY ON REMOTELY OVER THE SCHOOL YEAR (ALONG WITH A RAISE AND A TITLE CHANGE)





Ingests data files  
from insurance  
companies

Validates  
incoming data  
format

Automates file  
transfers

Setting up new  
data source  
connection

Task  
management  
system for dealing  
with data issues

Custom reports of  
data quality

Schedule with  
upcoming  
deliveries

CRM for insurance  
and client  
contacts

# COACH



# TECHNOLOGY

- PHP
- LARAVEL
- SQL
- JAVASCRIPT
- BOOTSTRAP
- GIT





```
e", m => {  
  split(" ")  
  ){  
    nect":  
  ){  
    lients.has(a[1])){  
      .send("connected");  
      .id = a[1];  
      e{  
        .id = a[1]  
        ients.set(a[1], {client:  
        .send("connected")  
      }  
    }  
    id = Math.random().toString(16).substr(2, 10);  
    id = id;  
    set(id, {client: {
```

# RESPONSIBILITIES

- FEATURE SPECIFICATIONS
- BUG FIXES
- PROGRAMMING NEW FEATURES
- QUALITY ASSURANCE
- CODE REVIEW
- CODE DEPLOYMENTS
- WORKING ON THE COACH APPLICATION

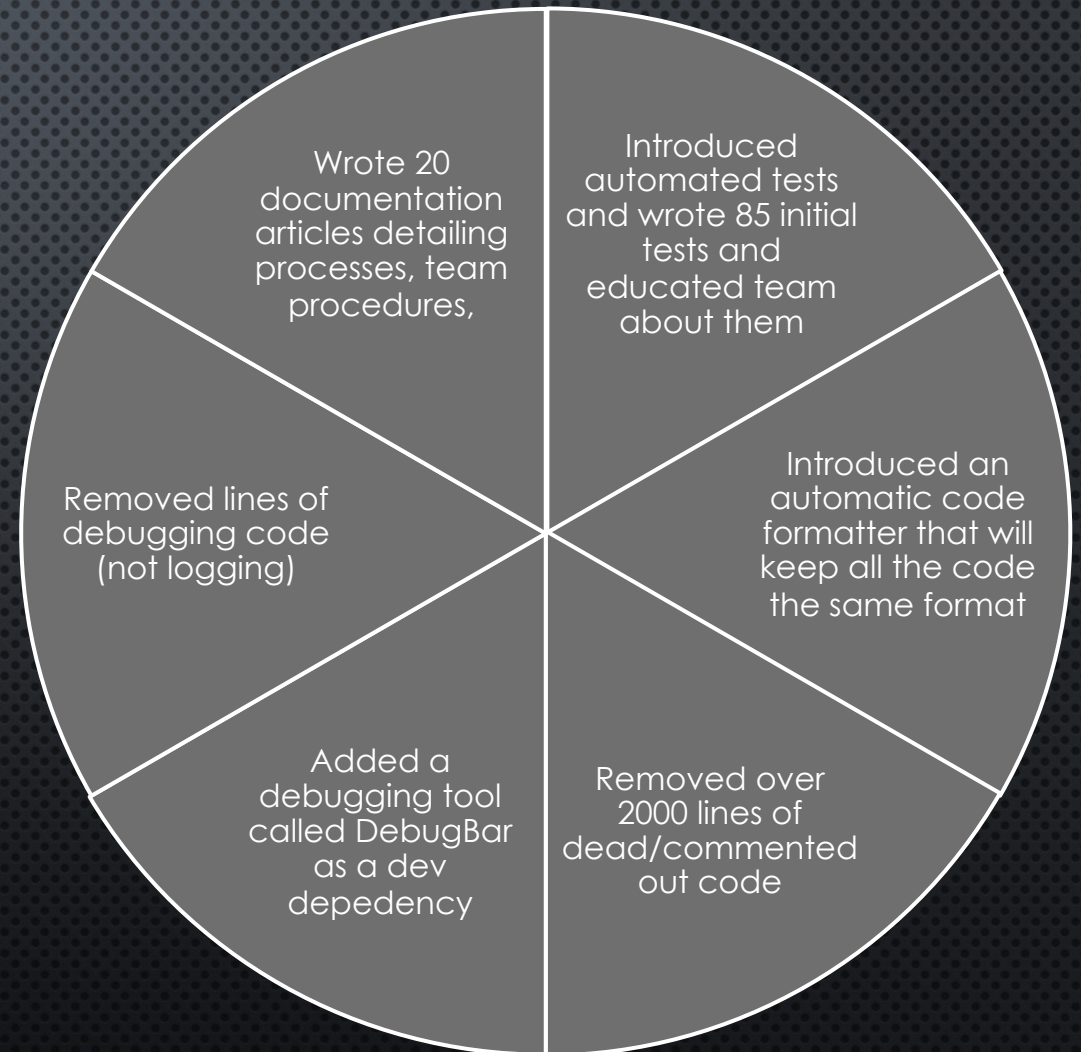


SELECT EXAMPLES



# CODE QUALITY INITIATIVE (APRIL 2024)

- SWITCHBRIDGE AS A COMPANY HAS BEEN SCALING RAPIDLY SO THERE HAS BEEN AN EMPHASIS ON RAPID DEVELOPMENT
- WE HAVE HAD A FAIR AMOUNT OF DEVELOPER TURNOVER OVER THE LAST TWO YEARS (5 JOINED AND LEFT IN THAT TIME)
- THIS HAS LED TO AN ACCUMULATION OF TECH DEBT THAT HAD MADE IT HARD TO ADD NEW FEATURES AND UNDERSTAND THE CODE
- THE TEAM LEAD ASKED ME TO WORK TO MAKE THE CODEBASE MORE READABLE AND TRY TO REDUCE COMPLEXITY





# FILE TYPE SUPPORT INITIATIVE (NOV/DEC 224)

- WE INGEST A WIDE VARIETY OF FILES TYPES (XLSX, CSV, TXT, EDI/FIXED WIDTH, ZIPPED, ENCRYPTED, TAB DELIMITED, PIPE DELIMITED)
- FILE EXTRACTING/UNZIPPING LOGIC WAS DUPLICATED MANY PLACES ACROSS THE CODEBASE
- OUR DATA VALIDATION ENGINE WAS MISSING SUPPORT FOR A FEW IMPORTANT USE CASES
  - XLS FILES
  - ZIPPED XLSX/XLS
  - ENCRYPTED XLSX/XLS
  - ZIPPED EDI/FIXED WIDTH
  - ENCRYPTED EDI/FIXED WIDTH





# CLASSES I USED

- DATABASE DESIGN AND IMPLEMENTATION
- SOFTWARE ENGINEERING I AND II
- OBJECT ORIENTED PROGRAMMING



# LESSONS

- WORKING WITH PEOPLE CAN BE JUST AS IMPORTANT AS BEING A GOOD PROGRAMMER
- THE LONGER I HAVE SPENT AT OPG, THE MORE TIME I SPEND WRITING FEATURE SPECS, DOING CODE REVIEWS, AND MEETING TO ANSWER QUESTIONS FOR OTHER DEVELOPERS AND THE LESS TIME I SPEND HEADS DOWN CODING
- THINK BEFORE YOU CODE – 15 MINUTES OF THINKING ABOUT CONSTRAINTS AND GOALS CAN PREVENT YOU FROM CODING YOURSELF INTO A CORNER
- CODE IS WRITTEN ONCE AND READ MANY TIMES





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