Deliverable 5

Class Voting System

IS436 Structured Systems Analysis and Design

12/3/2019

Arian Eidizadeh - Project manager

Cyril Fonzock - Software analyst

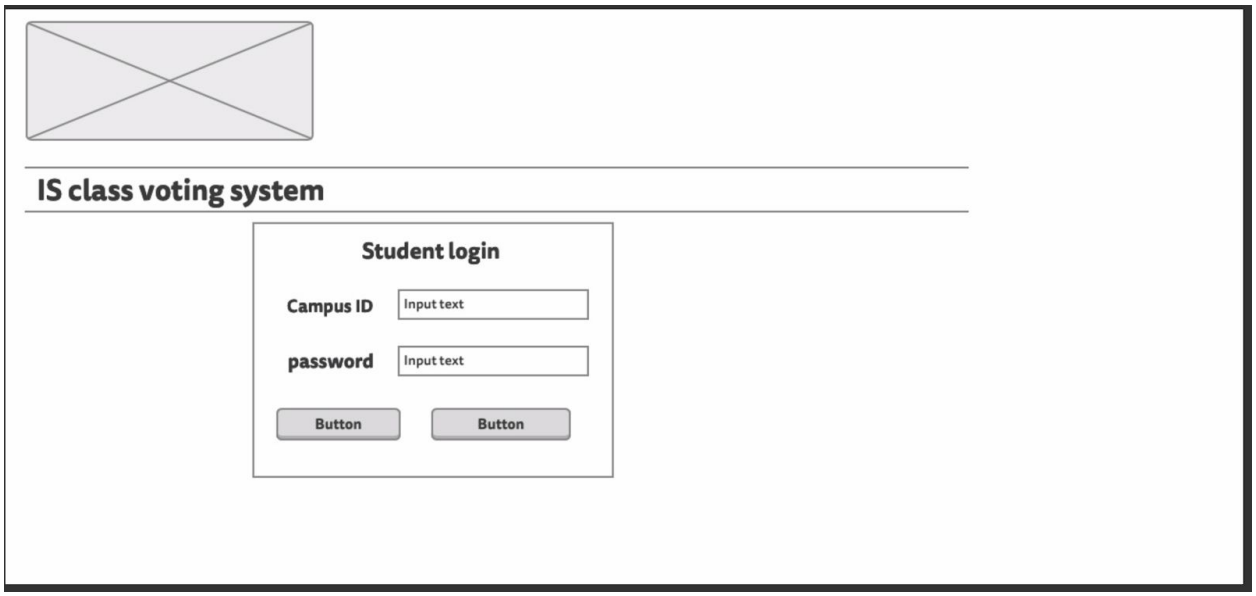
Michael Woldgerima - Developer

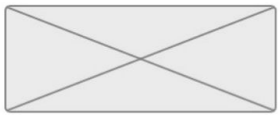
Leul Assamenew - System analyst

Sanee Patel - Data analyst

Yohannes Feleke - Developer

A. User Interface Design 1) Develop interface design prototypes for 3 most important screens, reports, or forms of your choosing. You can use Visio, any web page design tool, Visual Basic or any other case tool. These are only prototypes. You will not program or implement any functionality. 2) Discuss the interface standards that you would like to follow and make decisions.





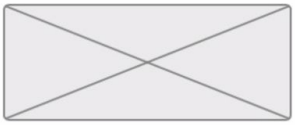
Student login >voting page

choose two classes to vote

vote	class name	class description
○	class	class description
○	class	class description
○	class	class description
○	class	class description
○	class	class description
○	class	class description

Resource request:

Button Button



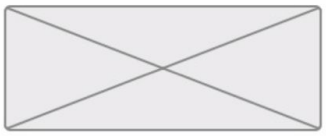
IS class voting system

Admin login

Campus ID Input text

password Input text

Button Button



Admin login > term >

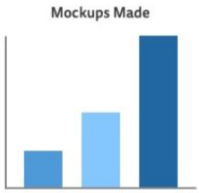
Select term

- Fall 2020
- Spring 2021
- Fall 2021

Admin login > term > Result page

Fall 2020

Class name	Total vote
class 1	11
class 2	22
class 3	33
class 4	44
class 5	55
class 6	66



Resources requested

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Key words

- word
- word
- word
- word
- word
- word

B. Program Design Convert your prototypes design into functional program. Create a program using html or any other programming languages. You don't need to create actual database, but should include your database table structure if your interface interacts with the database table.

These are provided within our GitHub project folder.

2) Discuss the system requirements in order to implement your project (i.e. software, hardware, platform etc.

We plan to run our project on top of Amazon Web services EC2. More specifically, we would run our web application on a T3 instance. A T3 instance is a burstable general-purpose instance type. This instance provides a baseline of CPU performance with the ability to burst CPU usage at any time for as long as required. With this, we can save on costs, and have the resources available if a lot of students use our web application at one. This ultimately provides us a predictable monthly cost.
We would use a T3 Medium instance, that contains:

- 2.5 GHz Intel Scalable Processor
- Intel AVX†, Intel AVX2†, Intel Turbo
- EBS Optimized
- Enhanced Networking†

The instance can also go up to 5 Gbps network performance.

Instance	vCPU*	CPU Credits/hour	Mem (GiB)	Storage	Network Performance (Gbps)
t3.nano	2	6	0.5	EBS-Only	Up to 5
t3.micro	2	12	1	EBS-Only	Up to 5
t3.small	2	24	2	EBS-Only	Up to 5
t3.medium	2	24	4	EBS-Only	Up to 5

Amazon

Each vCPU is a thread of either an Intel Xeon core or an AMD EPYC core.

We can move around any specifications as needed, and use Amazon EBS for database storage.

We realized that sometimes, our web application may not consistently need high levels of CPU, but can benefit significantly from having full access to very fast CPUs when we need them. If the instance needs to run at higher CPU utilization for a prolonged period, it can do so at a flat additional charge of 5 cents per vCPU-hour.

Our Web application will consist of PHP, Javascript , CSS, and HTML.

It will be using mssql and running Linux on the T3 Instance.

In terms of Machine Learning software, we will utilize **NeuroSolutions** product. This will provide us with an algorithm that can efficiently do cluster analysis and extract patterns from the data the students input.

Acceptable requirements include:

1.1. Interactions between the user and the system should not exceed 2 to 3 seconds.

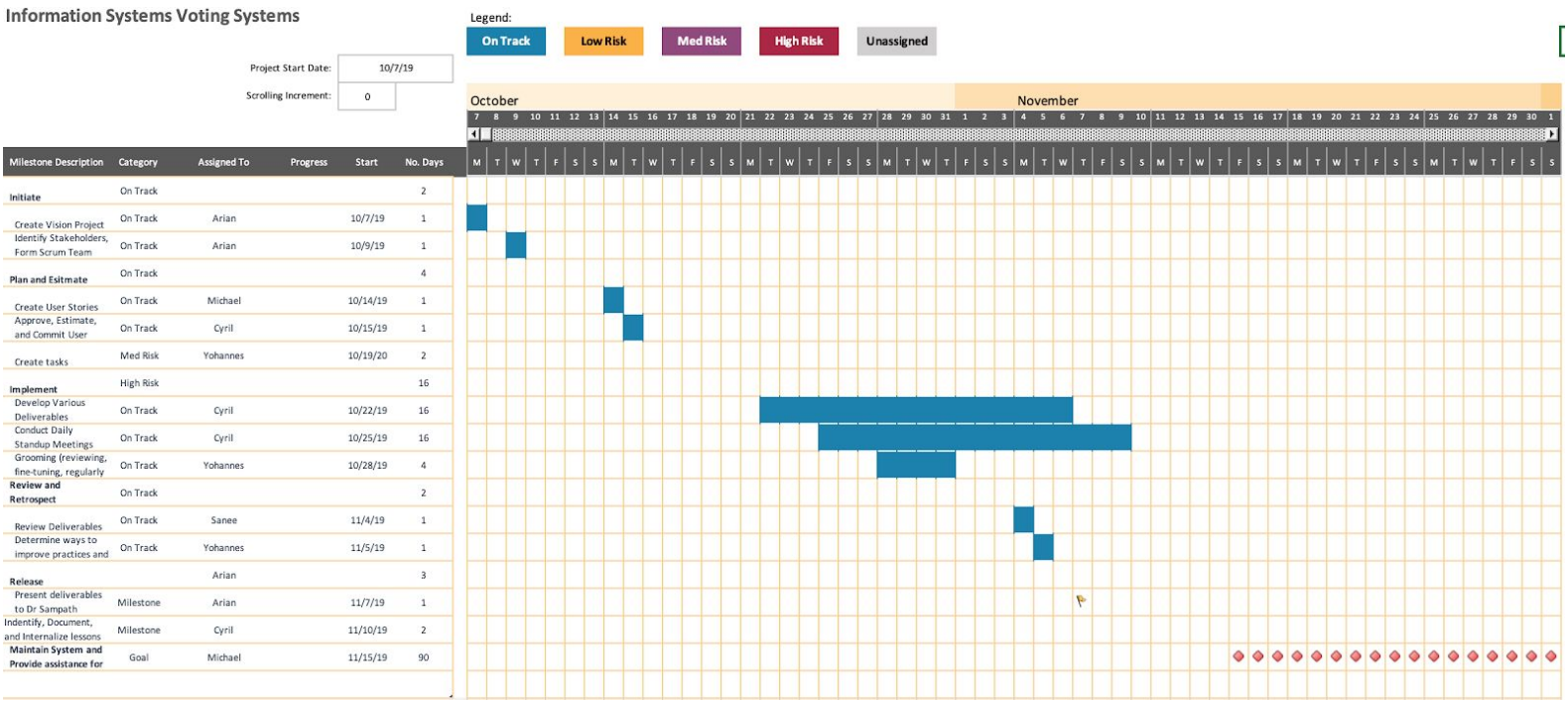
1.2. The system downloads new status parameters instantly. Program should be making changes in real time.

1.3. The system should be available for use 24 hours per day, and however long the department director keeps the voting system online.

1.4. The system supports 250-300 simultaneous users at a time. If there is a need for more resources, AWS instance will allocate them.

1.5. Usability and proper deployment of web application.

D Include your updated project plan that includes all the five phases of your system design.



Information Systems Voting Systems

Project Start Date: 10/7/19

Scrolling Increment: 0

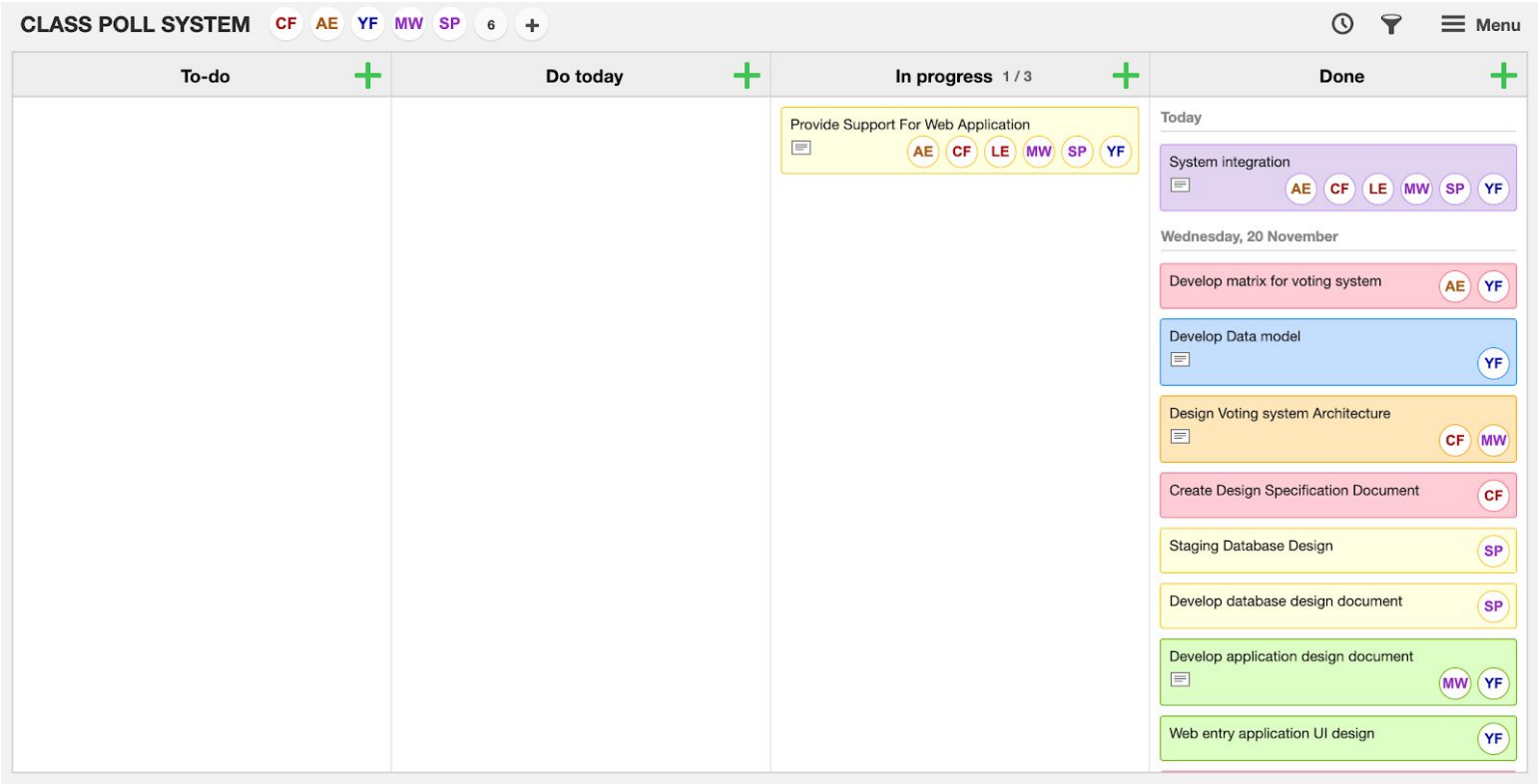
Legend: On Track | Low Risk | Med Risk | High Risk | Unassigned

Milestone Description	Category	Assigned To	Progress	Start	No. Days
Initiate	On Track				2
Create Vision Project	On Track	Arian		10/7/19	1
Identify Stakeholders, Form Scrum Team	On Track	Arian		10/9/19	1
Plan and Esitmate	On Track				4
Create User Stories	On Track	Michael		10/14/19	1
Approve, Estimate, and Commit User	On Track	Cyril		10/15/19	1
Create tasks	Med Risk	Yohannes		10/19/20	2
Implement	High Risk				16
Develop Various Deliverables	On Track	Cyril		10/22/19	16
Conduct Daily Standup Meetings	On Track	Cyril		10/25/19	16
Grooming (reviewing, fine-tuning, regularly	On Track	Yohannes		10/28/19	4
Review and Retrospect	On Track				2
Review Deliverables	On Track	Sanee		11/4/19	1
Determine ways to improve practices and	On Track	Yohannes		11/5/19	1
Release		Arian			3
Present deliverables to Dr Sampath	Milestone	Arian		11/7/19	1
Indentify, Document, and Internalize lessons	Milestone	Cyril		11/10/19	2
Maintain System and Provide assistance for	Goal	Michael		11/15/19	90

October November

In terms of our project plan, we would have been on track with all of our deliverables, and would have presented Dr. Sampath our milestone. Our next goal is to provide 90 days of support for the web applications and answer any questions Dr. Sampath may have.

E Assign the requirements to your team members using Kanban board. Reuse the same board that you had created for your previous deliverables.



F) Explain your team experiences throughout SDLC process. (i.e. rewarding, challenging and how did you solve the challenges as a team)

G Demo your completed application to the stakeholders. -- Set an appointment

We learned about the different attributes of the SDLC that had to be revisited, such as the project plan, functional and non-functional requirements. The SDLC had certain requirements that had to be met such as what implementation to take whether it be agile, waterfall, iterative or spiral. We chose agile for our project for speed of system, but that was after heavy deliberation and weighing the pros and cons did we decide on agile method. Overtime, we understood what hosts/system requirements were needed for our project and had to adapt. We also learned about methods for working together so that we can acclimate to the right roles and get situated with getting things done. We found finishing our various deliverables to be very rewarding, because it

lets us know that we were that much closer to finishing our system. Our challenges come from having to apply changes with feedback from the professor such as comments on our database diagram, data flow diagram and anything of the like as we had to edit an assignment that was perceived to be correct. Near the end of deliverables and deadlines we were under more stress than at any other time during our system conception. But after the first couple deadlines we figured out a method to completing deliverables in a timely fashion. A difficult portion of our project was trying to predict errors or pitfalls in our project so that we could plan ahead for it. In order to do this we made sure to look at the project from every perspective. Getting approval from our project sponsor that our assignment is going well is a big reliever.Finishing this project will be the biggest reward, however as it will culminate 2-3 months worth of our time, effort and hard work.