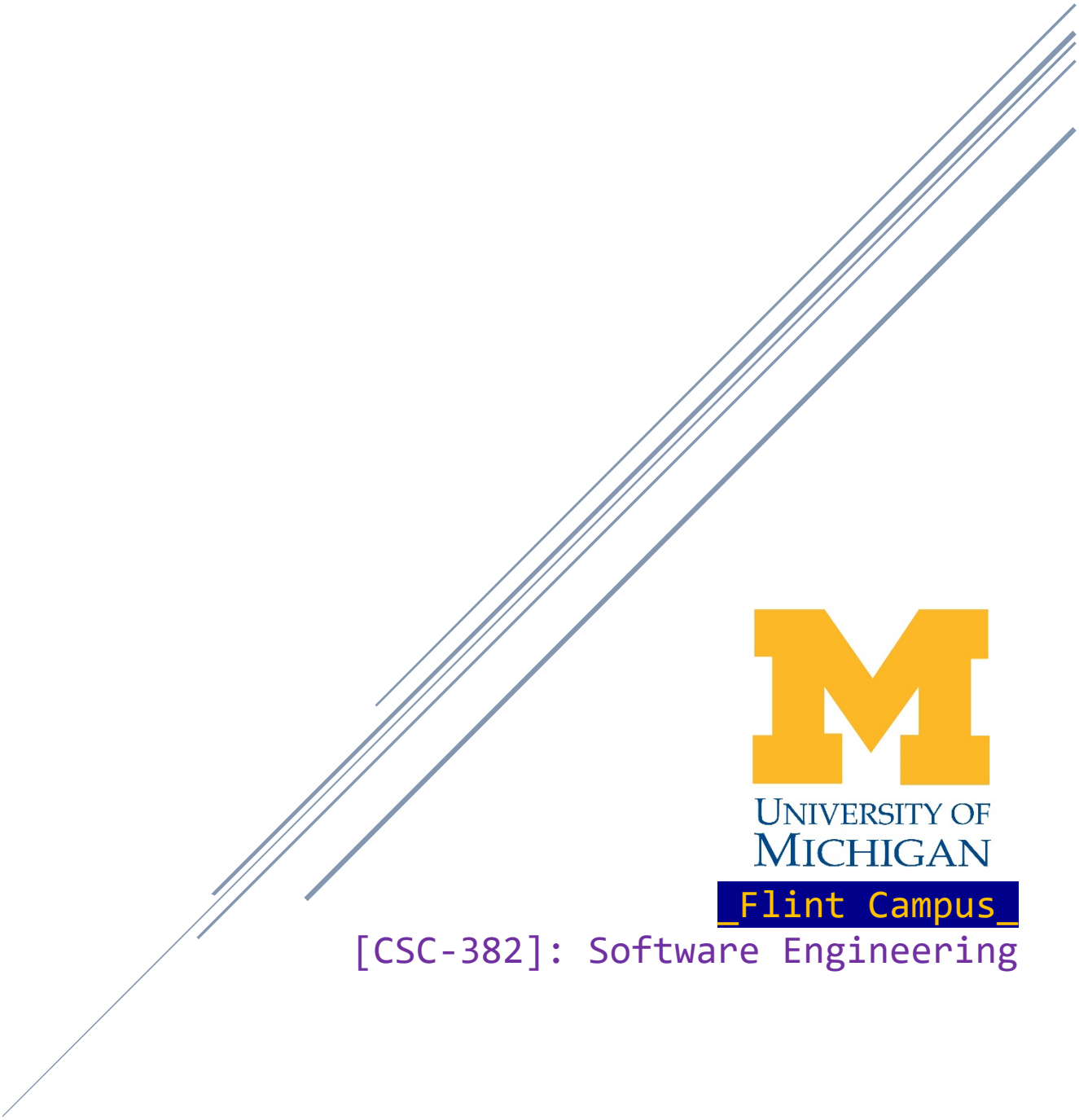
ASSIGNMENT #2

Cason Konzer 7/18/21



UNIVERSITY OF MICHIGAN
Flint Campus

[CSC-382]: Software Engineering

Contents

Zachman

	Planner **Scope** (contextual perspective)
What **Data** (entities)	- Physical ATM-like ticket vending machine - Vending/sale of virtual or paper concert and movie tickets; Money in-out (correct change) - Event previews & passive advertisements
How **Function** (activities)	- Live communication with vendors/database on location, timing, pricing, floor plans, seating, availability and music/movie/concert trailers/previews - Live communication with advertising companies, credit card companies, and colleges/towns. - Physical touchscreen, speakers, internet, printing and Bluetooth, card reading, and cash/change input/output capabilities on vending machine - Capability for both student and admin users - Time out feature to switch to advertising interface
Where **Network** (locations)	- Large college towns/cities located on campus or downtown - Remote admin location varies
Who **People**	- Community and campus event coordinators (Town Hall/ University) - Concert, theater, event venues - Credit Card companies - Advertising Companies - IT companies for system administration
When **Time**	- Local concerts, movies, events - System launch date - First event & system update - 1,2,5 year assessment
Why **Motivation**	- Profit form providing ticket sales and advertisements - Fill venues and theaters to capacity - Increase community event popularity, frequency and attendance - Increase accessibility to events

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Top-Level Use Case

Diagram 1,

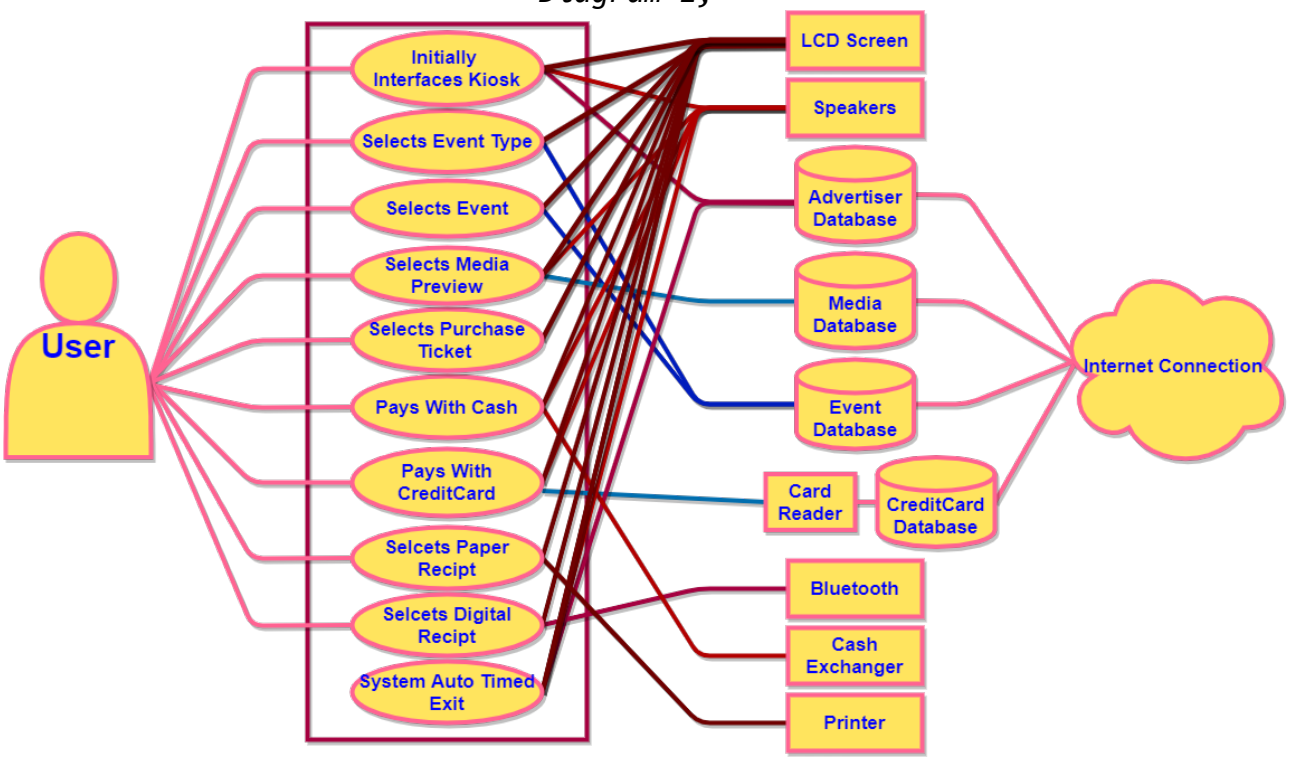
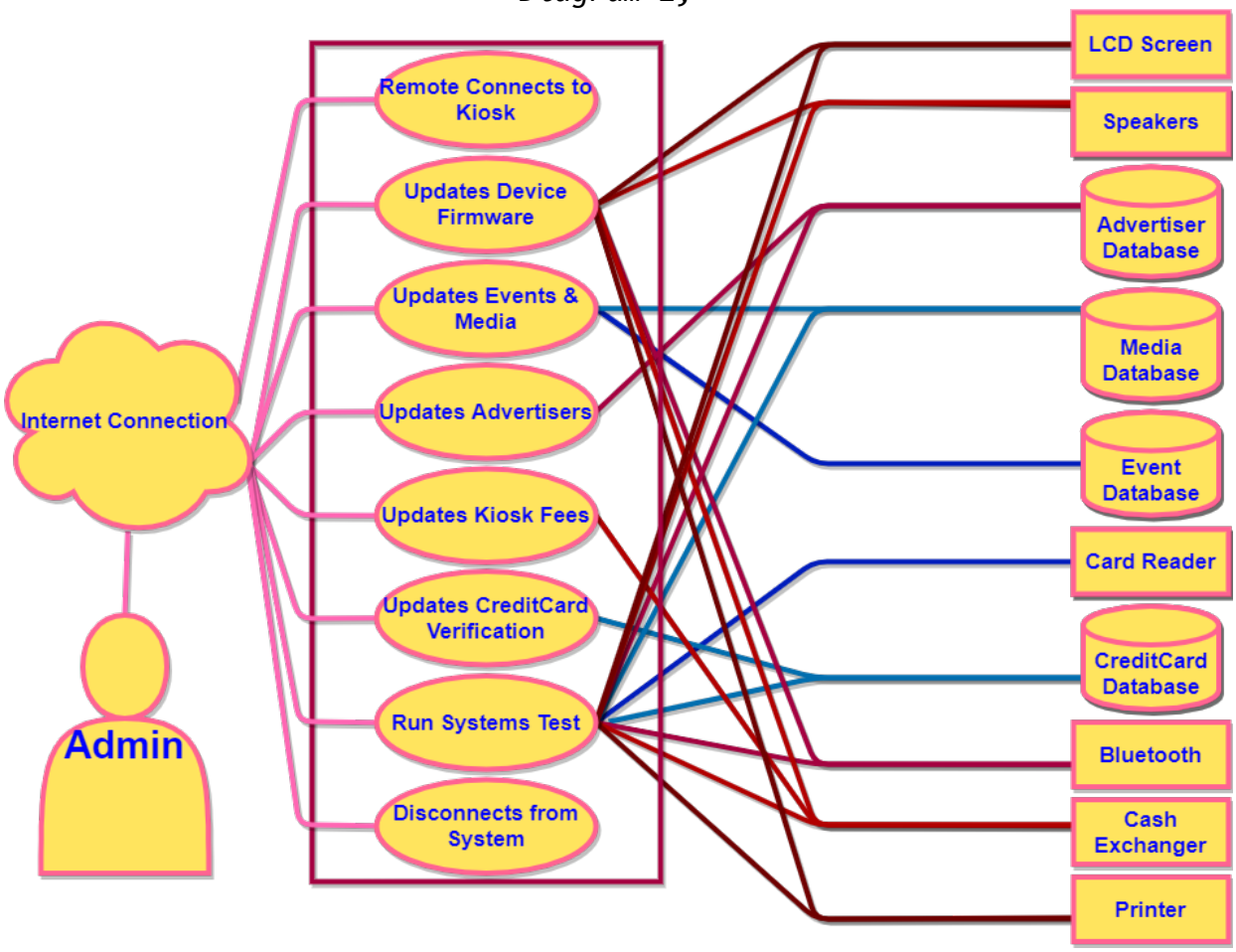


Diagram 2,


Internet Connection
Admin
Remote Connects to Kiosk
Updates Device Firmware
Updates Events & Media
Updates Advertisers
Updates Kiosk Fees
Updates CreditCard Verification
Run Systems Test
Disconnects from System
LCD Screen
Speakers
Advertiser Database
Media Database
Event Database
Card Reader
CreditCard Database
Bluetooth
Cash Exchanger
Printer

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Text/Narrative Use Case

Use Case 1,

	Description
Use Case:	*Buy Movie Ticket with Cash*.
Primary Actor:	User / Buyer.
Goal in Context:	To use the system to buy a movie ticket at a local movie theater with cash.
Preconditions:	Kiosk is setup and there is at least one local movie with available tickets (user has cash payment).
Trigger:	The user plans to go see a movie soon and wishes to buy ticket today. They wish to browse the available titles and theaters at time of purchase.
Scenario:	1. User: approaches kiosk and clicks on screen to end advertisements. 2. User: selects movie as event type and browses. 3. User: explores movies and watches trailers, checks availability and pricing. 4. User: selects movie to go see and selects purchase. 5. User: selects pay with cash, inserts money into the cash exchanger and collects change. 6. User: selects paper receipt; grabs receipt from printer and leaves the kiosk.
Exceptions:	1. Kiosk is out of change and cannot accept cash. 2. Kiosk has lost connection to the internet and databases. 3. Kiosk gets unplugged from power source. 4. Kiosk display is corrupted (image or touchscreen out).
Priority:	Essential, must be implemented.
When Available:	First increment.
Frequency of Use:	Many times per day.
Channel to actor:	LCD Display, Speakers, Touch Screen, Cash Exchanger.

Use Case 2,

	Description
Use Case:	*Buy Concert Ticket with Credit*
Primary Actor:	User / Buyer
Goal in Context:	To use the system to buy a concert ticket at a local concert venue with credit.
Preconditions:	Kiosk is setup and there is at least one local concert with available tickets.
Trigger:	The user plans to go see a concert soon and wishes to buy ticket today. They wish to browse the available musicians and venues at time of purchase.
Scenario:	1. User: approaches kiosk and clicks on screen to end advertisements. 2. User: selects concert as event type and browses. 3. User: explores artists and venues; listens to song previews, views venue pictures, checks date/time, available seating and pricing. 4. User: selects concert to go see and selects purchase. 5. User: selects pay with credit, inserts card into the card reader. 6. User: selects digital receipt; checks phone to ensure receipt was received and leaves the kiosk.
Exceptions:	1. Kiosk is out of change and cannot accept cash. 2. Kiosk has lost connection to the internet and databases. 3. Kiosk gets unplugged from power source. 4. Kiosk display is corrupted (image or touchscreen out).
Priority:	High priority, should not be missed.
When Available:	Second increment.
Frequency of Use:	Many times per day.
Channel to actor:	LCD Display, Speakers, Touch Screen, Card Reader.

Use Case 3,

	Description
Use Case:	*Update Events, Media, and Advertisers*
Primary Actor:	System Admin
Goal in Context:	To remove old information and provide new relevant information to kiosk users.
Preconditions:	Kiosk is setup and there is internet connection.
Trigger:	New concert venue now works with Kiosk company, new titles are released, current system is out of date with current schedule.
Scenario:	1. Admin remote connects to kiosk. 2. Admin clears out past events. 3. Admin removes advertisers, venues and theaters no longer working with kiosk. 4. Admin updates new advertisements, venues, and theaters. 5. New titles are added to media section including trailers and music previews. 6. Event schedule is updated for future. 7. Admin logs out of kiosk.
Exceptions:	1. System was hacked, admin user no longer has rights. 2. Admin user has no internet connection. 3. System has been unplugged from power. 4. Bug prevents admin from pushing out updates to, or clearing out past events from, the system.
Priority:	Medium, large inconvenience if missed.
When Available:	4th increment.
Frequency of Use:	Once per week.
Channel to actor:	Virtual Interface, Company Computer.

Use Case 4,

	Description
Use Case:	*Update Kiosk Firmware and Run Systems Test, and checks cash exchange/printer status.*
Primary Actor:	System Admin
Goal in Context:	To update kiosk firmware to the latest release as a means of preventative maintenance.
Preconditions:	Kiosk is setup and there is internet connection.
Trigger:	Hardware providers release a new version of firmware.
Scenario:	1. Admin remote connects to kiosk. 2. Admin installs firmware update for all devices that got new releases. 3. After each firmware update admin runs system tests to determine if firmware update caused any issues. 4. If new issues occur admin rollback firmware and notifies dev team to address. 5. Admin ensures kiosk has adequate change and paper. 6. Admin checks cash collections remaining space. 7. If need be, admin informs contractor to replace change, add paper, or collect cash profits. 8. Admin logs changes in system. 9. Admin logs out of kiosk.
Exceptions:	1. System was hacked, admin user no longer has rights. 2. Admin user has no internet connection. 3. System has been unplugged from power. 4. Bug prevents admin from pushing out updates to, or clearing out past events from, the system.
Priority:	Low, firmware updates can be installed locally if need be.
When Available:	Last increment.
Frequency of Use:	Once per month.
Channel to actor:	Virtual Interface, Company Computer.

Works Cited

Pressman, R., and B. Maxim, *Software Engineering: A Practitioner's Approach, Eighth Edition*, McGraw-Hill, 2015.