

Institutionen för Data- och Systemvetenskap

SU

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IS1

Verksamhets- och affärssystem

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Students are allowed to bring lecture notes, exercise notes, exercise solutions, course literature and calculators to the exam.

The written exam measures goals 1, 2, 3, and 4 of the course.

In order to get grade A for the written exam, all goals must be fulfilled with grade A. The same rule applies to grades B, C, D, E, and Fx.

The exam contains a number of questions. They are given in both English and Swedish.

Question 1 (measures Goal 1)

For each of the following statements, determine whether it is true or false. Justify your answers carefully.

1. The functions in a business process are less likely to change over time than the control flow (the word “functions” is here used in the EPC sense).
2. An EPC diagram shows logical order rather than temporal order.
3. In an EPC diagram, an or join must always be followed by an or split.
4. In BMM, an influencer can be both a threat and an opportunity for the same goal.
5. The following is a good formulation of an objective: “The competence level of the personnel shall increase during 2015” (the word “objective” is here used in the BMM sense).
6. Some influencers are both internal and external.
7. Both take and give stockflows can occur in an exchange process.
8. Only use and produce stockflows can occur in a conversion process.
9. ERP systems are primarily useful for managing customer relationships.
10. “Ronald Reagan was the 40th President of the United States” is an example of an assertive speech act.
11. Every e3value model must include at least one market segment.
12. E3value models are useful for representing communication and control flow.

Question 2 (measures Goal 2)

Read the following text about the company Oyster from the company web site.

“Oyster is the leading streaming service for books. For just \$9.95 a month, readers can enjoy as many books as they want—everything from *New York Times* Best Sellers and Oprah’s picks, to children’s titles and more.

With over half a million titles and new books arriving every day, it’s never been easier to find a story to dive into. Readers can browse and discover on their own, or get expert recommendations from our editorial team. Over time, Oyster gets to know what readers like, and recommends books based on their reading habits and tastes.

Oyster is available for [Apple iOS](#), [Android](#), [Nook HD](#), and [Kindle Fire](#), as well as on [the web](#).

Let’s be friends, shall we? Say hi and follow us on: [Twitter](#), [Facebook](#), or [Instagram](#).”

Read also the following text from an article in Wired:

“By now, we’ve all gotten pretty used to not owning stuff—at least in the traditional, hold-it-in-your-hands sense. If you’re anything like me, your DVD collection stopped growing a few years back once Netflix and Hulu bolstered their offerings. And that CD storage stand (hell, even your iTunes account) has probably gathered dust thanks to Spotify and Rdio. But books? Turns out, we’re still content to pay \$10 for a paperless novel that we’re not even certain we’ll like or finish. The publishing industry is among

the last holdouts in the ongoing transition from owning media to accessing it through a monthly service, but that's about to change with the launch of [Oyster](#), an app released today for the iPhone that's looking to transform the way you read and pay for books.

Maybe you've heard that claim before. Kindle does have its lending library, and your local library already allows you to digitally check out books. But when I say Oyster is different, that's because it is. For \$9.95 a month you get unlimited access to more than 100,000 titles, and according to the founders, that number is growing daily. You can jump from Jessica Alba (yes, Jessica Alba wrote a book) to Charles Bukowski with the same ease of shuffling from Katy Perry to J Dilla on Spotify. There's no pressure to finish either since users can add as many books as they'd like to their reading list, and the last 10 opened will instantly be downloaded for offline reading.

Created by Willem Van Lancker, Eric Stromberg and Andrew Brown, Oyster's main goal is to make the process of finding and reading books much easier than it has been in the past. "You don't have to decide, do I want to spend \$12.99 on this single book?" explains Van Lancker. "Rather, you can just tap and get into it." The founders figure that by removing the purchasing process, people will spend less time hemming and hawing over buying a book and more time actually reading it, which hopefully will lead to more revenue for the publishers, authors and Oyster (Stromberg wouldn't delve into business model details, but he says it's a "win-win-win" for all parties involved). "We want to eliminate the barriers to get you into content because we know that the most enjoyable experience someone is going to have with Oyster is finding a book that they fall in love with," he says.

The app does make finding books easy. Van Lancker, formerly a designer at Google and Apple, and Brown, who was also at Google as an engineer, created and designed an app that more or less engineers discovery. The home screen functions like a digital bookstore browsing table, highlighting the bold covers of editor-curated titles and enticing readers with accolades and reviews. Each book has a "related" tab, which points you in the direction of similar titles, and the app's social function will help you find good reads via your friends. Like most apps, the more you read, the better the algorithm is at guessing what you're into, and with Stromberg's experience at Hunch, you can bet that the recommendation engine is going to become an increasingly important feature. Reading a book on Oyster is a distinctly digital experience, and yet, it doesn't feel soulless or straining in the way reading on a screen often can be. This is largely due to Van Lancker's thoughtful approach to the app's design, which ties in his experience typesetting books during college. "There are things that people hold onto emotionally with books that we should carry over, and there are things we should leave to print books," he explains. Things like highlight cover art or knowing your place in a story. "When you read a physical book, you know how far though you are by feeling it, right?" explains Stromberg. "When you use the reader you'll see we have a few indicators of your progress visually so you'll get that same sensation you get when you're reading a physical book." Oyster relies on percentages and a timeline to indicate overall progress on a book, but in a clever, human-centered design move, the app uses smaller units—

pages and estimated minutes left in a chapter—to guide readers along while they’re inside a book.

... Ultimately, Oyster isn’t gunning to replace print books. Think of it the same way you approach music: You can buy vinyls of the albums that mean a lot to you, but Spotify and Rdio are far superior for exploring and discovering what you want to listen to next. Like all access-model services, Oyster’s long-term success relies on its ability to offer its users in-demand content. So far they’ve signed on big publishers like HarperCollins, Houghton Mifflin Harcourt, Workman and Rodale (to name a few) as well as indie book distributor Smashwords. That should be enough to get you started, but if not, you can bet they’ll grow that list even more once the service launches on iPad later this fall.”

<http://www.wired.com/2013/09/is-this-netflix-of-books-the-next-big-thing-in-publishing/>

You have been hired by Oyster to design their new strategy, and as part of this you should design a goal model. Construct a goal model for Oyster. The model should include at least:

- 6 goals
- 6 means
- One means for every leaf goal
- One objective for every leaf goal
- 6 influencers
- One influencer that is both a strength and a weakness
- One influencer that is both a threat and an opportunity

Your goal model is to include the following items:

- Amazon is about to offer a streaming service similar to the one of Oyster
- More and more people own a tablet
- High profit
- People want to own their books
- People want to write notes in their books
- To have more than 10,000 paying customers at the end of 2015
- Introduce a complementary service that transforms text in a book to speech

For each item above you need to choose whether to represent it as a goal, an objective, a means, or an influencer. You need to reformulate the items above so that they clearly express goals, objectives, means, or influencers. For example, the bullet “High profit” should be formulated as a goal “The profit of the company shall be high”.

You will need to make your own assumptions about Oyster. State these explicitly.

Question 3 (measures Goal 3)

Read the text about Oyster in Question 2.

- a) Construct an e3value model for the value network around Oyster. Include actors, market segments, value interfaces, value ports, value exchanges, and dependency paths.
- b) Suppose that Oyster starts to offer a premium service where its readers can access not only books but also magazines. How will this affect the model from a)? Design a new e3value model for this case.

Question 4 (measures Goal 4)

A company produces and sells jewelry, such as necklaces, earrings and bracelets. As it produces the jewelry itself, it needs to procure material, such as gemstones, coins and other precious material. It also needs to procure more inexpensive items, including glass, beads and wire.

Identify at least two exchange processes and at least one conversion process for the company. Describe these processes by means of one (or several) class diagram(s) using the REA pattern. Make explicit which classes in your model that correspond to which classes in the REA pattern. Your model must be able to handle the following information requirements:

- How many diamonds has the company purchased?
- How many customers have ordered earrings that cost more than 100 euros?
- How many necklaces have been produced during 2013?
- How many earrings with beads have been produced during 2013?
- Which is the most ordered necklace?
- How many suppliers have sold beads to the company?
- Which necklaces include beads that cost more than 10 euros each?
- Which purchase orders have not yet been fulfilled (i.e. the deliveries have not been made to the company)?

Please hand in your course evaluation in Daisy!

Fråga 1 (mäter mål 1)

Avgör för vart och ett av följande påståenden om det är sant eller falskt. Motivera Dina svar utförligt. (Försök till svenska översättningar finns inom parentes för varje påstående.)

1. The functions in a business process are less likely to change over time than the control flow (the word “functions” is here used in the EPC sense). (Funktionerna i en affärsprocess är mer stabila över tiden än kontrollflödet.)
2. An EPC diagram shows logical order rather than temporal order. (Ett EPC diagram visar logisk ordning snarare än temporal ordning.)
3. In an EPC diagram, an or join must always be followed by an or split. (I ett EPC diagram måste en “or join” alltid följas av en “or split”.)
4. In BMM, an influencer can be both a threat and an opportunity for the same goal. (I BMM kan en påverkansfaktor vara både ett hot och en möjlighet för samma mål.)
5. The following is a good formulation of an objective: “The competence level of the personnel shall increase during 2015” (the word “objective” is here used in the BMM sense). (Följande är en bra formulering av ett “objective”: Personalens kompetens skall öka under 2015.)
6. Some influencers are both internal and external. (Vissa påverkansfaktorer kan vara både interna och externa.)
7. Both take and give stockflows can occur in an exchange process. (Både ta och ge “stockflows” kan förekomma i en utbytesprocess.)
8. Only use and produce stockflows can occur in a conversion process. (Enbart använda och producera “stockflows” kan förekomma i en konversionsprocess.)
9. ERP systems are primarily useful for managing customer relationships. (Affärssystem är främst användbara för att hantera kundrelationer.)
10. “Ronald Reagan was the 40th President of the United States” is an example of an assertive speech act. (“Ronald Reagan var USA:s fyrtionde president” är ett exempel på en “assertive” talhandling.)
11. Every e3value model must include at least one market segment. (En e3value modell måste inkludera minst ett marknadssegment.)
12. E3value models are useful for representing communication and control flow. (e3value modeller är användbara för att representera kommunikation och kontrollflöde.)

Fråga 2 (mäter mål 2)

Läs följande text om företaget Oyster från företagets hemsida.

“Oyster is the leading streaming service for books. For just \$9.95 a month, readers can enjoy as many books as they want—everything from *New York Times* Best Sellers and Oprah’s picks, to children’s titles and more.

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your friends. Like most apps, the more you read, the better the algorithm is at guessing what you're into, and with Stromberg's experience at Hunch, you can bet that the recommendation engine is going to become an increasingly important feature. Reading a book on Oyster is a distinctly digital experience, and yet, it doesn't feel soulless or straining in the way reading on a screen often can be. This is largely due to Van Lancker's thoughtful approach to the app's design, which ties in his experience typesetting books during college. "There are things that people hold onto emotionally with books that we should carry over, and there are things we should leave to print books," he explains. Things like highlight cover art or knowing your place in a story. "When you read a physical book, you know how far though you are by feeling it, right?" explains Stromberg. "When you use the reader you'll see we have a few indicators of your progress visually so you'll get that same sensation you get when you're reading a physical book." Oyster relies on percentages and a timeline to indicate overall progress on a book, but in a clever, human-centered design move, the app uses smaller units—pages and estimated minutes left in a chapter—to guide readers along while they're inside a book.

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Du har anställts av Oyster för att utforma deras nya strategi, och som ett led i detta skall du utforma en målmodell. Skapa en målmodell för Oyster. Modellen skall omfatta minst följande:

- 6 mål
- 6 medel
- Ett medel för varje lövmål
- Ett "objective" för varje lövmål
- 6 "influencers"
- En "influencer" som är både en styrka och en svaghet
- En "influencer" som är både ett hot och en möjlighet

Din målmodell skall också inkludera följande punkter:

- Amazon är på väg att erbjuda en streamingtjänst liknande den i Oyster
- Fler och fler människor äger en elektronisk platta (eng. "tablet")
- Hög vinst
- Människor vill äga sina böcker
- Människor vill skriva anteckningar i sina böcker
- Ha fler än 10.000 betalande kunder i slutet av 2015
- Införa en kompletterande tjänst som omvandlar text i en bok till tal

För varje punkt ovan måste du välja om du vill representera den som ett mål, ett medel, ett "objective" eller en "influencer". Du måste ibland omformulera punkterna ovan så att de tydligt uttrycker mål, medel och "influencers". Till exempel bör punkten "hög vinst" vara formulerad som ett mål "vinsten i företaget skall vara hög".

Du får själv göra antaganden om Oyster. Ange då dessa tydligt.

Fråga 3 (mäter mål 3)

Läs texten från fråga 2 om Oyster.

- a) Konstruera en e3value modell för värdenätverket runt Oyster. Inkludera aktörer, marknadssegment, värdegränssnitt, värdeportar, värdeutbyten och beroendevägar.
- b) Antag att Oyster börjar erbjuda en premiumtjänst där läsarna kan få tillgång till inte bara böcker utan även tidskrifter. Hur kommer detta att påverka modellen från a)?
Utforma en ny e3value modell för detta fall.

Fråga 4 (mäter mål 4)

Ett företag tillverkar och säljer smycken, som halsband, örhängen och armband. Eftersom företaget producerar smyckena självt, så måste det skaffa material, såsom ädelstenar, mynt och annat värdefullt material. Det måste också anskaffa mindre dyrbart material, bland annat glas, pärlor och tråd.

- a) Identifiera minst två utbytesprocesser (eng. "exchange processes") och minst en konversionsprocess (eng. "conversion process") för företaget. Beskriv dessa processer med hjälp av ett (eller flera) klassdiagram med hjälp av REA mönster. Tydliggör vilka klasser i modellen som motsvarar vilka klasser i REA mönstren.

Modellen måste kunna hantera följande informationskrav:

- Hur många diamanter har företaget köpt?
- Hur många kunder har beställt örhängen som kostar mer än 100 euro?
- Hur många halsband har producerats under 2013?
- Hur många örhängen med pärlor har producerats under 2013?
- Vilket är det mest beställda halsbandet?
- Hur många leverantörer har sålt pärlor till företaget?
- Vilka halsband innehåller pärlor som kostar mer än 10 euro styck?
- Vilka inköpsorder har ännu inte uppfyllts (dvs. leveranserna har inte gjorts till företaget)?

Vänligen lämna in kursutvärdering via DAISY!